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Eurosclerosis at 40: labor market institutions, dynamism, and European competitiveness

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Eurosclerosis at 40: Labor Market Institutions, Dynamism, and European Competitiveness

By Benjamin Schoefer[1]

Abstract

This paper repositions Europe's labor market institutions as drivers of the transatlantic gap in macroeconomic performance. Institutional diagnoses were prominent in times of high European unemployment in the 1980-90s. But interest waned as joblessness fell—even though the decline was uneven, precarious work arrangements have grown, and labor markets remain largely unreformed (unlike product and financial markets). Yet, rigid labor market institutions continue to matter because they can stifle labor market and business dynamism: Europeans switch jobs much less frequently, and restructuring is much rarer. Recent research argues that such immobility impedes wage and productivity growth. Moreover, this low dynamism contributes to Europe's specific underperformance in tech, R&D, disruptive innovation, ICT adoption—where creative destruction requires fluid reallocation. This institutional labor market perspective on European competitiveness complements prevailing diagnoses focused on capital and product market fragmentation. Tight labor markets, lower unemployment, and shrinking labor supply might keep this nexus timely.

1 Introduction and Summary

This paper attempts a reappraisal of the role of labor market institutions in present-day research and policy discourse surrounding European competitiveness. Along the way, I take stock of the state of Europe's labor markets, the past and present state of its labor market institutions, and pressures and opportunities. In the tradition of transatlantic comparative economics, I organize the discussion around the European-American macroeconomic performance gap. Overall, I explore the argument that while Europe has largely solved its unemployment problem (although pockets remain and precarious work arrangements emerged), Europe has preserved labor market institutions, and that they continue to affect macroeconomic performance by stifling labor market and business dynamism.

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Chart 1
Roadmap of the paper: three types of links from labor market institutions to macroeconomic performance

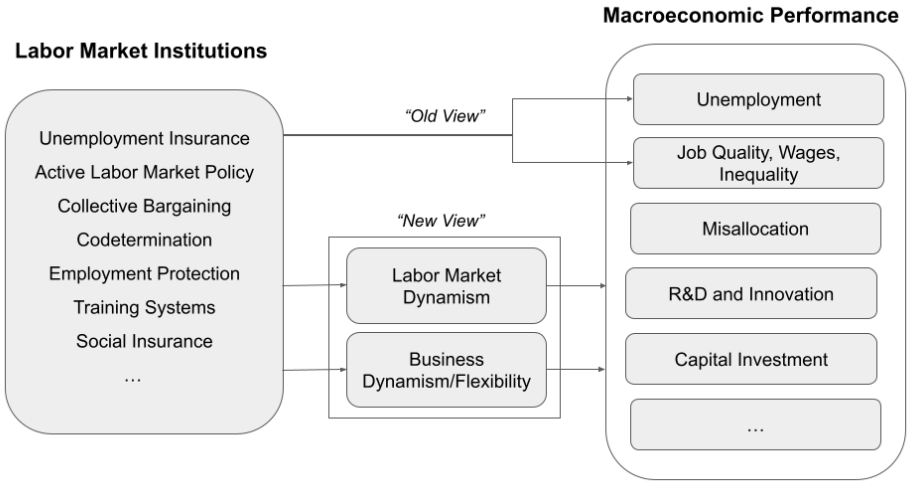


Chart 1 aims to capture the broad logic of the argument of the paper. It includes the conventional direct links of labor market institutions on narrow sets of macroeconomic outcomes such as unemployment. It also spotlights the new perspective working through labor market and business dynamism that broadens the scope and relevance of their macroeconomic effects.

The paper proceeds in six steps.

I start with a cliché. I reiterate the US-European gap in macroeconomic performance: productivity, material standards of living (as measured by GDP per capita), and hours worked in Europe have all fallen behind the US over the last 30 years, following a slow-down that started about 40 years ago. On top of conventional capital investment, observers frequently link this transatlantic gap with gaps in disruptive innovation, adoption of (ICT) technologies, and overall business dynamism.

Second, I zoom out and situate this discourse in a compact intellectual history of this transatlantic gap in macroeconomic performance. Various versions of it have been lamented in strikingly similar fashion and nearly verbatim for the last 40 years. The similarities include the objects of discontent, their empirical symptoms, and, in large part, the diagnoses. In short: there is a direct line from Herbert Giersch's 1985 original diagnosis of "Eurosclerosis" to the 2024 Draghi report. The condition of Eurosclerosis appears to have proven sclerotic itself.

Third, I aim to diagnose and understand a shift in discourse, policymaking and research: while the original debates very much saw labor market institutions and rigidities as core sources of the divergent performance, that emphasis has weakened. The plausible reason is that the original glaring performance indicator that was most obviously related to labor market rigidities—namely, high trend

unemployment—has waned since about the mid-2000s. Today, European unemployment is not too far from the US level. This convergence probably reduced pressure on policymakers to further reform labor market institutions. It also appears to have lowered the interest of academic macroeconomists in European labor market institutions (with perhaps the exception of taxation).

However, the initial opening and recent closing of the unemployment difference remain poorly understood–including the role of labor market reforms therein. This reduction in unemployment has arguably been achieved through a combination of three developments. First, some countries have tweaked their unemployment insurance systems toward the Danish “flexicurity” system (active labor market policies, reduction in long-term unemployment benefits)—albeit with little movement on the job security side. A prominent example is the German Hartz reform series in the mid-2000s (the effects of which remain up to debate). Second, other countries have facilitated, or at least accommodated, the emergence of a two-tier labor market, with fixed term and part-time jobs. Third, decentralization of wage setting institutions (collective bargaining) might have contributed to the decline in unemployment. In any case, while Europe has been on a successful path towards curbing its unemployment problem, substantial unemployment and labor market dysfunction remain in some pockets of the labor market, such as among the young, certain subnational regions, and in the “Mediterranean” economies.

Fourth, I argue that except for tweaks that targeted the unemployment problem, Europe has, by and large, preserved its labor market institutions: strong employment protection rules for permanent contracts, involvement of workers in corporate decision making (codetermination), robust collective bargaining institutions, generous unemployment insurance benefits, and high labor tax levels. The preservation of labor market institutions and regulations stands in contrast to the comprehensive and deep deregulations of product and financial markets European countries have implemented over the past decades.

Fifth, I explore the argument that labor market institutions may remain central to the transatlantic gap in macroeconomic performance—through channels other than the level and incidence of (un-)employment. Instead, they may do so by shaping or constraining labor market fluidity and dynamism—which remains low in Europe compared to the US. Recent research has linked labor market and business dynamism as a key driver of growth at the individual and aggregate level—with natural links to (disruptive) innovation, risky and R&D investments, the tech sector, management practices, and reallocation—hence exactly the frequently highlighted elements plausibly underlying the transatlantic gap since at least the 1980s. More recently, concerns about labor shortages and skill mismatch call for a reassessment of the role of labor market rigidities and attention to their impact on labor market dynamism, along with potential policy remedies.

That view suggests rich links between labor market institutions affect macroeconomic performance. For instance, employment protection regulations might not merely raise unemployment by curbing hiring in the first place—as the standard perspectives have emphasized. Instead, by protecting incumbent workers in their current jobs often in ways that are linked to seniority, it plausibly also locks in

employees and lowers their willingness to move to new and better job opportunities. Similarly, rigidities from employment protection may limit employers' room to adapt jobs to changing challenges and opportunities such as new technologies. Worker involvement (codetermination) often requires lengthy discussions on shifts in business practices, hiring, or restructuring. Occupational licensing and vocational training (such as German apprenticeships with its top-down curricula) may hinder occupational mobility and reallocation.

Hence, this picture suggests that quintessentially European labor market institutions—rather than the usual suspects of product and capital market issues—may plausibly be at the core of several key symptoms of the transatlantic gap in macroeconomic performance.

The idea that labor market institutions may be particularly suitable or unsuitable for specific types of economic activities is far from new. Scholars associated with the "Varieties of Capitalism" literature and welfare state literature—sociologists, political scientists and historians—have put front and center institutional complementarities. Those scholars have specifically pinpointed the traditional European model to favor exactly the kind of industries, firms and modes of work, financing, and production that now plausibly put Europe at a disadvantage. (For instance, by one view, much of the modern European labor market model was designed for, or evolved during, the early post-War period in an environment of large manufacturing businesses, involved in capital-intensive growth and incremental innovations, funded by patient capital and drawing on and helping form a supply of specific skills.) Research on institutional complementarities and resulting comparative advantage is relatively underdeveloped and underappreciated in economics research, which usually studies policy parameters one at a time and only in a limited set of economies in a transferrable way. But if that view holds water, then at least in the currently booming industries and perceived sources of the transatlantic gap, Europe's model, if unchanged, may naturally lag behind or at least may catch up more slowly, or differently.

Sixth, I attempt to review potential links from European labor market institutions and policies to labor market dynamism, in particular as it regards effects on innovation, reallocation, and use and adoption of new and quickly evolving technologies such as ICT. This section will disappoint. Perhaps this reflects the, arguably disproportionate, focus on their effects on unemployment-related outcomes. A complementary, modern agenda should put as much emphasis on which labor market institutions support or hinder productivity growth among the vast majority—about 94%—of European labor force participants—that do have a job, and similarly on their effects on business dynamism and specifically in innovative sectors.

The paper's conclusion briefly switches gears to a more nuanced and balanced assessment of labor market institutions, acknowledging that its goal, to seek explanations for the transatlantic gap, necessarily leads to an unfair focus on the downsides of the institutions.

2 A Brief History of European Competitiveness and the Role of Labor Market Institutions

I attempt a brief intellectual history of the nexus of European labor market institutions and macroeconomic performance, and dissect its primary focus on the European unemployment problem. Arguably, once with the weakening of the unemployment problem, the discourse on the macroeconomic performance gap between Europe and the US along other dimensions, such as productivity, neglected labor market institutions as a broader factor.

2.1 The Transatlantic Gap

Chart 2 summarizes three key macroeconomic performance indicators: GDP per capita, GDP per hour worked, and working hours per capita, for the US and the eurozone countries (defined as in Bergeaud 2024 and following his construction). For convenience, they are expressed relative to the US (which is normalized to 100; the Appendix includes these time series in levels for Europe and the US).

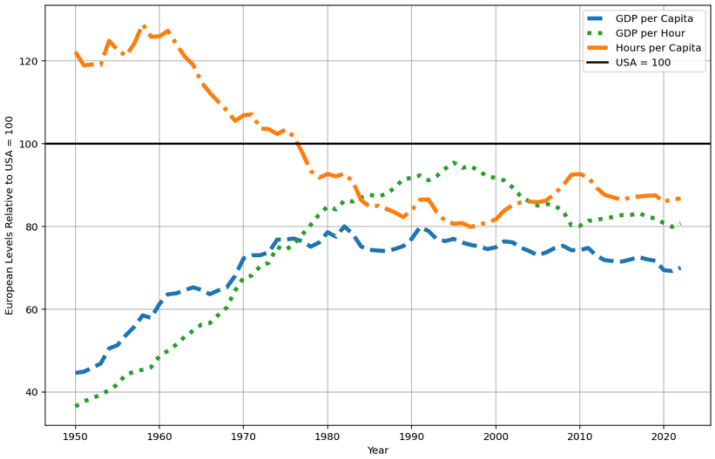
Chart 3 plots the unemployment rate evolution and cross-country comparison in 2022.

During the post-War recovery, Europe was on a steep path of convergence with the US economy, catching up both through gains in technological efficiency as well as through capital accumulation. During this period, Europeans worked more and had lower unemployment than Americans.

But starting in the 1970s, either as the post-War catch-up growth with the US approached exhaustion or due to different responses to the same supply shocks of the 1970s, the momentum started to turn: Europe's labor productivity growth slowed down relative to the US, and Europeans started to work less, alongside a considerable increase in unemployment, which continued to pile up to unprecedented levels since the early 1980s.

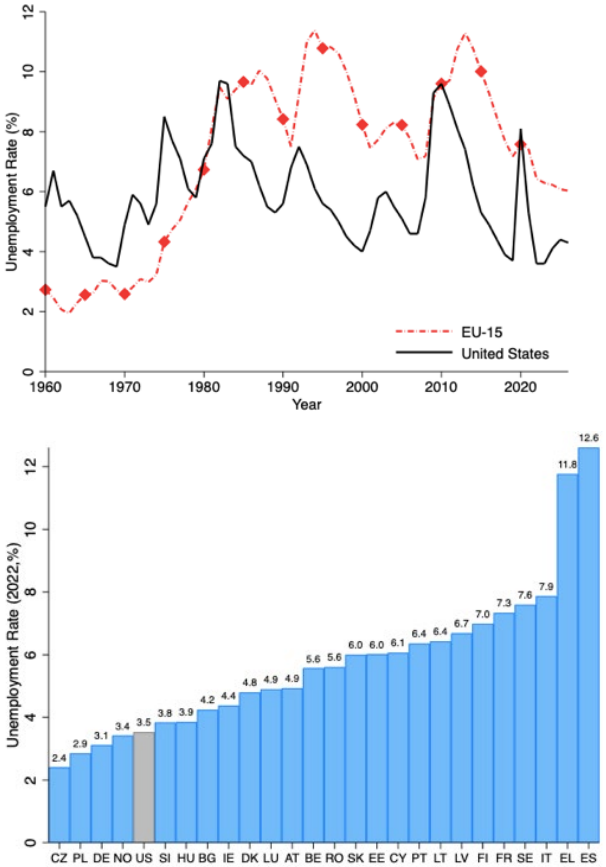
Around that time, the transatlantic gap in GDP per capita settled in at about a 20% "discount" between the two regions through about the mid-90s. Since then, the gap has gradually started to widen again, to about 30% in the 2020s. It reflects a labor productivity gap of about 20% and a 10-15% gap in hours worked (see, e.g., Bick, Brüggemann, and Fuchs-Schündeln 2019). On the bright side, while unemployment remains elevated compared to the US, it is on a downward trend and Europe has nearly closed the gap with the US. (These European averages of course mask considerable heterogeneity in country-level performances, see Bergeaud 2024 and Draghi 2024.)

Chart 2
The macroeconomic performance gap between Europe and the United



States
Notes: Data from Bergeaud et. al. (2024), where Europe / Euro area is defined as Germany, France, Italy, Spain, Netherlands, Belgium, Ireland, Austria, Portugal, Finland, and Greece.

Chart 3
The evolution of European (and American) unemployment and 2022 comparison across countries



Notes: The figure shows European unemployment rates across time and member states. Unemployment rates are expressed in percent and refer to the population between ages 15 to 74. The top panel shows the evolution of unemployment rates among the EU15 member states between 1960 and 2024. Unemployment rates are expressed in percent. Red lines represent the population-weighted mean among EU-15 member states. The time series is similar if using an unweighted mean. Black, solid lines represent the unemployment rate in the United States. The data source is AMECO. The bottom panel shows average unemployment rates in European economies and the United States between 2022 and 2023. The data source is the EU-LFS for European economies and ASEC for the United States. Calculations use the provided survey weights. EU-15 includes Austria, Belgium, Denmark, Finland, France, Germany, Greece, Ireland, Italy, Luxembourg, Netherlands, Portugal, Spain, Sweden, and the United Kingdom.

2.2 The Policy Debate: New and Old

These gaps have sparked calls for reforms that would boost European competitiveness. Most recently, the Draghi report (2024) has put forth one compelling hypothesis of the factors underlying the divergence between the American and European economies, with particular attention to the areas of finance, professional services, and ICT, and the gap in disruptive non-incremental innovations. Besides stemming from the ICT sector itself, the productivity gap appears to have spread through European firms' sluggish adoption of productivity-enhancing investments, in particular in digitalization and ICT:

> First – and most importantly – Europe must profoundly refocus its collective efforts on closing the innovation gap with the US and China, especially in advanced technologies. Europe is stuck in a static industrial structure with few new companies rising up to disrupt existing industries or develop new growth engines. [...] This lack of dynamism is self-fulfilling.[...]
> Technological change is accelerating rapidly. Europe largely missed out on the digital revolution led by the internet and the productivity gains it brought: in fact, the productivity gap between the EU and the US is largely explained by the tech sector. The EU is weak in the emerging technologies that will drive future growth.[...]
> If Europe cannot become more productive, we will be forced to choose. We will not be able to become, at once, a leader in new technologies, a beacon of climate responsibility and an independent player on the world stage. We will not be able to finance our social model. We will have to scale back some, if not all, of our ambitions. This is an existential challenge. (Draghi 2024)

Hence, among a wide array of policy recommendations, the report once again puts front and center capital market reforms (such as the EU-wide capital markets union) that would stimulate the supply of capital and lower its cost—sparking entrepreneurship and scaling up of new firms, including an expansion of both venture capital investments in tech startups and the ability of successful companies to scale up thanks to deeper and more dynamic capital markets. That is, by this view, European entrepreneurship, innovation, and investment opportunities are readily available, but mainly constrained by financing (and perhaps some remaining product market barriers in Europe).

While precise policy recommendations differ, other observers share similar diagnoses and views of the transatlantic gap—and I dare to leave the reader in brief rhetorical suspense about the specific citations in the two subsequent examples:

> Not surprisingly, it is in the field of production innovations where Europe has reasons to worry about falling behind the U.S. [...] despite all efforts to raise R&D spending. … But in the application [...] to new products, where small- and medium-sized firms have a comparative advantage, Europe lacks the dynamism which the U.S. economy has shown in the creation of thousands of new companies. (Citation 1 revealed below)

> Yet, growth has been mediocre, with Europe's performance deteriorating—both absolutely and in comparison with the United States. It is as if Europe has become stuck in a rut. [...] It has now become clear that the context in which economic policies have been developed changed fundamentally over the past thirty years. [...] A system built around the assimilation of existing technologies, mass production generating economies of scale and an industrial structure dominated by large firms with stable markets and long term employment patterns no longer delivers in the world of today [...]. What is needed now is less vertically integrated firms, greater mobility within and across firms, more retraining, greater flexibility of labour markets, greater availability of external finance, in particular equity finance, and higher investment in both R&D and higher education. In other words, what is required is a massive change in economic institutions and organisations, which has not yet occurred on a large scale in Europe. (Citation 2 revealed below).

The symptoms of the transatlantic gap have remained surprisingly stable. In fact, the first quote above ("Not surprisingly…") is from the influential paper entitled "Eurosclerosis" by Herbert Giersch (1985)—the 40th anniversary of which is marked this year. Many of its 1985 passages read strikingly similar to the 2024 Draghi report.

The second citation is, in turn, at the midpoint, 20 years later, and quotes from the 2003 Sapir report, commissioned to, once again, sketch diagnoses and prescriptions for European competitiveness, in large part reflecting the transatlantic gap on productivity and specifically Europe's lag in tech-heavy areas and the diffusion of ICT.

In fact, the years between 1985 and today are full of similar pieces marking Europe's quest for competitiveness relative to its transatlantic peer. The lists of symptoms of Eurosclerosis tend to include the following:

- Lower business dynamism
- Slower adoption of frontier technologies and management practices
- Lower mobility and slower worker reallocation
- An emphasis on incremental innovation in old and established industries and firms, at the perceived expense of disruptive innovation and growth in and from the ICT sector
- High unemployment
- Low labor supply and preference for leisure
- Rigid (often sectoral, national) wage setting institutions that depress labor demand
- Interference with corporate decision making and management through political or union influence (codetermination)

- Sluggish adoption of new technologies
- Barriers to growth for innovative new firms

2.3 The Broad Diagnosis: Institutional Rigidities, in Particular in the Labor Market

However, while the stated symptoms of Eurosclerosis have remained surprisingly stable in the policy as well as academic discourses, the diagnosis and prescriptions appear to have shifted focus. Broadly, these symptoms were typically linked to institutional rigidities to observers back in 1985, as in Giersch's original conclusion that "in the final analysis, Europe's weakness is not technological but institutional" (Giersch 1985). In much of the 40-year period that followed, this broad diagnosis of structural reform of European institutions has not changed too much. In a recent review on the abundant literature on structural reforms, Campos, Grauwe, and Ji (2025) put the debate as follows:

> Much of the agenda of structural reforms in Europe has been driven by the motivation to emulate the US economic system, which is widely seen as more dynamic and flexible than the European economies. This US dynamism is often seen as being responsible for the relative successes of the United States in achieving disruptive scientific and technological innovations. The perception that Europe is lagging in creating these innovations explains much of the drive for structural reforms that aim to bring Europe closer to the American economic model. (Campos, Grauwe, and Ji 2025)

Originaly, on the institutional front, the specific focus has often explicitly included, if not prioritized, labor market institutions as the drag on European competitiveness—for outcomes even not immediately outside of the labor market:

> Labour market institutions are one factor behind Eurosclerosis…. The EC Commission [1984] lists: 'The wage determination system; non-wage costs; taxation; minimum wage levels; unemployment insurance; rules governing recruitment and dismissal, the flexibility of working hours and the organization of work, health hazards and safety; rules governing unions and the right to strike; pension schemes; the housing market; training and education…' [...]
> If we consider these rigidities together with Europe's high marginal tax rates and their likely depressing effect (i) on the mobility of labour, (ii) on the incentive to achieve, (iii) on the enterprising spirit, and (iv) on the whole economic atmosphere, we recognize that the contrast between Europe on the one hand and the U.S. and the Far East on the other hand is anything but a puzzle. (Giersch 1985)

That is, while the problem of high European unemployment was the most pressing problem at the onset of the Eurosclerosis debate (Chart 3), labor market institutions appeared to have at least initially and occasionally been drafted as a broader

explanation for the transatlantic gap in macroeconomic performance, and in particular the gap in business dynamism and labor market fluidity. But as I recap below, those richer causal pathways remained relatively underexplored with a predominant focus on unemployment.

2.4 The Narrowing Focus: Unemployment and Labor Market Institutions

By and large, despite the broad potential for labor market institutions to affect macroeconomic performance through a variety of causal pathways, the academic and policy discourses largely focused on the link of labor market institutions with unemployment—a natural priority as the slowdown in growth and the supply shocks of the 1970s led to an unprecedented pile-up of unemployment, jumping from levels initially well below the US level to much above it (see Chart 3). Siebert (1997) offered a forceful and canonical case for this diagnosis, entitled “Labor Market Rigidities: At the Root of Unemployment in Europe.”

Blanchard (2006) offers a coherent, compelling, and pedagogical narrative of the academic discourse following the problem of European unemployment as a focal point of Eurosclerosis. By that storyline, in the 1970s, labor market institutions, in particular constraints on wage setting through heavily centralized collective bargaining, introduced rigidities that propped up labor costs at too high a level and for too long, leading labor demand to decline and unemployment to increase (Bruno and Sachs 1985, Calmfors and Driffill 1988). Hence, labor market institutions were plausible sources of amplification in the form of nominal and real rigidities. The tougher puzzle, however, was the stubborn persistence of European unemployment after plausible macroeconomic shocks had disappeared. To account for that persistence, Macroeconomists devised (but ultimately did not quantitatively assess) hysteresis mechanisms (with antecedents in Phelps 1972), through capital accumulation, insider-outside mechanisms in union wage setting, and skill depreciation of the unemployed (Lindbeck and Snower 1986, Blanchard and Summers 1986, Sargent and Ljungqvist 1986, Layard and Nickell 1987). Overall, unemployment remained the main object of concern in the study of labor market institutions, as emphasized and dissected with great urgency and in detail in the influential 1994 OECD “Jobs Study”—which provided a comprehensive perspective on how EPL, collective bargaining, unemployment insurance, taxes may affect and shape the problem, with associated reforms that may curb it.

The precise mechanisms and institutions that ultimately propped up unemployment in Europe remain, broadly, open questions, as do the precise reasons for why some countries escaped high unemployment earlier or avoided the rise entirely. The Appendix illustrates the large heterogeneity in the ups and down of European unemployment as well as different unemployment rate “anchors” suggestive of heterogeneity and trends in natural rates. Some puzzling comparisons are the Austrian vs. German or the Spanish vs. Portuguese experiences (see, e.g., the discussion and references in Blanchard 2006). But these questions will likely remain unsolved as macroeconomic research has moved on. Relatedly, the unemployment

dynamics following the Great Recession and the COVID shock raise similar questions given the large and heterogeneous increases in unemployment. Interestingly, new reduced form estimates (Hall and Kudlyak 2022) do not support systematically lower recovery speeds in unemployment across European economies compared to the US.

2.5 Moving Beyond Eurosclerosis and Labor Market Institutions

Gradually, the role of labor market institutions appears to have waned both in policy discourse and in academic research related to macroeconomic performance– alongside a perceived solution of the European problem of high unemployment. Arguably, this convergence took off pressure from policymakers to reform the institutions. It also led macroeconomists to largely disregard studying European labor market institutions.

As early as in 2009, observers such as Boeri and Garibaldi (2009) started making the optimistic case for a near-conclusion of the unemployment problem. In the piece entitled “Beyond Eurosclerosis,” providing an updated and forward-looking account of the historical perspective in Blanchard (2006), they argued that, at least up until the Global Financial Crisis, Europe had largely left unemployment and hence Eurosclerosis behind, with the trend moving toward low unemployment:

> Europe no longer suffers from Eurosclerosis; unemployment, notably long-term unemployment, had decreased substantially for more than a decade. [...] Institutional reforms — such as declining employment protection for new entrants in the labour market and less generous unemployment benefits — account for this increase in mobility. (Boeri and Garibaldi, 2009)

This account is broadly consistent with aggregate time series as well as microempirical evidence on unemployment duration distributions—with this development occurring sometime between the mid-90s and mid-00s, depending on the country. Hence, by that account, European policymakers had learned to fight unemployment with a combination of active labor market policies with sticks and carrots (inspired by the Danish flexicurity model, see Kreiner and Svarer 2022).

Methodologically, in this scientific enterprise, macroeconomists have developed frameworks that largely aim to understand the transmission and persistence mechanisms of unemployment and tightly related phenomena, and the potential role of institutions therein. These debates were largely centered around the Diamond-Mortensen-Pissarides search and matching model of the labor market, which gave the conceptual tools to produce and analyze a coherent theory of unemployment, with workers being either employed or unemployed. The prime institutional factors in macroeconomic performance were unemployment insurance, worker bargaining power shifters, and versions of firing costs, taxes, or hiring or employment subsidies (see, e.g., Pissarides 2000). The models often sidestepped capital investment or serious margins of entrepreneurship, describing job destruction and creation largely as labor demand problems in service of unemployment rate determination (and sometimes focused on policy effects on the job quality of the

unemployed, e.g., Acemoglu and Shimer 1999, Marimon and Zilibotti 1999). While research interest in high trend unemployment waned, interest in cyclical unemployment surged, particularly with the Global Financial Crisis that marked the end of the Great Moderation–although this recent cyclical research did not focus on institutional factors.[2]

A parallel debate focused on the role of labor income taxation on the gap in labor supply between the US and European countries (see, e.g., Prescott 2004, Bick and Fuchs-Schündeln 2018). This literature is largely based on a neoclassical view of the labor market, and abstracted from labor market frictions that give rise to unemployment. It also gave room for the role of broader labor market institutions and cultural differences in explaining the gap in hours worked and the social welfare and tax system (see, e.g., Alesina, Glaeser and Sacerdote 2005; Alesina and Fuchs-Schündeln 2007).

But overall, as European unemployment gradually converged toward US levels starting in the 2000s, with the unemployment and active labor market policy tools having been identified as plausible policy levers, both policymakers and researchers began to view the institutional explanations of the European trend unemployment levels as solved or solvable problems (see, e.g., Boeri and Garibaldi 2009).

The idea this paper explores is that the shift in focus away from labor market institutions might have been premature and too sweeping—and that labor market institutions instead continue to deserve central attention as plausible crucial drivers of macroeconomic performance, above and beyond their narrow effects on unemployment.

3 An Update on Original Eurosclerosis: Institutional Persistence and Remaining Symptoms

I now attempt a somewhat sprawling account that takes stock of the current state of labor markets in Europe, assessing their macroeconomic performance along the traditional benchmarks of Eurosclerosis.

First, I substantiate the claim that, by and large, Europe's labor market institutions have stayed stable. Notable exceptions include the design of unemployment insurance systems and active labor market policies, isolated decentralization of collective bargaining or declines in coverage, and the facilitation or accommodation of fixed-term contracts. In short, the institutional landscape of European labor markets looks much as it did in the 1980s—high taxes, strong job protection, collective wage setting, and mandated worker voice have proven resilient.

Second, I provide an update on the account of symptoms and modern causes of Eurosclerosis. I start by focusing on the conventional symptoms,

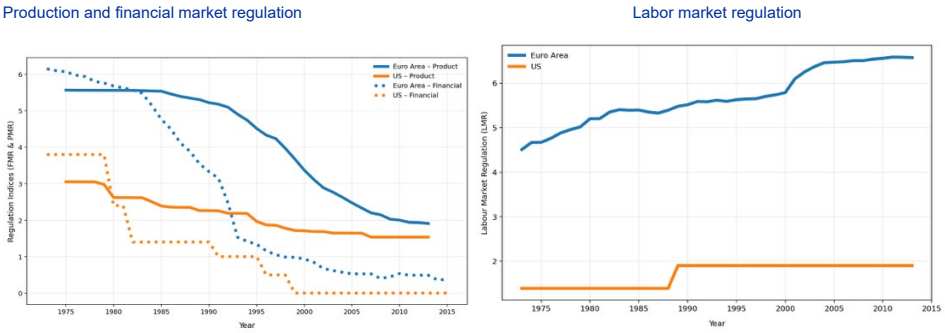
[2] See Merz 1995, Andolfatto 1996, and particularly influential treatments by Shimer 2005, Hall 2005, Hagedorn and Manovskii 2008 and the follow-up literature.

chiefly unemployment rates and its distribution across regions, and reassess their evolution and potential ties with the kind of rigidities emanating from labor market institutions that were traditionally highlighted.

Third, I expand the assessment to the rise in labor market duality, its chief symptom being the rise of (so called “non-standard”—a term that aged poorly) work arrangements such as fixed term contracts. Arguably, this rise has helped solve, or masked, some of the European unemployment problem (although its net effects due flows back into unemployment remain an open question).

In the next section, I then move to an expanded and fresher view of Eurosclerosis that considers modern-day challenges of macroeconomic performance as well as the frontiers in macro-labor research, beyond the conventional original focus on the unemployment rate and its in and outflows.

Chart 4
Deregulation in Europe and the US



Notes: The Indices are normalized between 0 and 10 as per Campos et. al. (2025), and for the Euro Area the index is the average across countries. The regulatory indices are from the OECD, Denk & Gomes (2017), and the University of Cambridge’s Centre for Business Research respectively. The Euro Area is defined by Bergeaud et. al. (2024) as Germany, France, Italy, Spain, Netherlands, Belgium, Ireland, Austria, Portugal, Finland, and Greece.

3.1 Persistence in Labor Market Institutions

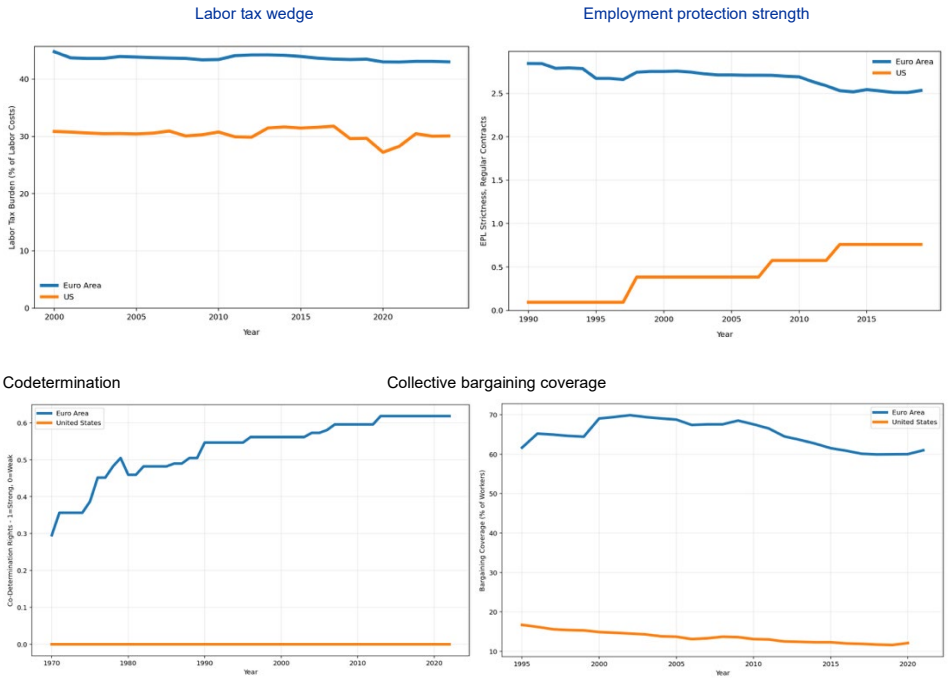
By and large, Europe has preserved its labor market institutions. While individual countries differ substantially in their detailed arrangements, European labor markets remain subject to strong employment protection legislation (EPL) regulating permanent/open-ended contracts, involvement of workers in corporate decision making (codetermination), robust collective bargaining institutions and coverage, and high labor tax levels.

Regulatory trends across domains.

The stability and absence of fundamental structural reforms to labor market institutions and regulations stands in contrast to the comprehensive and deep deregulations of product and financial markets—as illustrated by Chart 4, which draws on the regulatory indices for financial, product, and labor markets by Campos

et al. (2025). The subsequent Chart 5 detail specific dimensions of labor market institutions and regulations.

Chart 5
Labor Market Institutions in Europe and the US Over Time: Specific Features



Notes: Tax wedges, employment protection, and collective bargaining coverage are taken from OECD data. Average tax wedge (income tax, payroll tax, and social security contributions minus cash transfers) is measured as a percentage of labor costs for a single person with no dependents earning the average wage. Employment protection legislation is measured over individual and collective dismissals for regular contracts (0 to 6 range). Collective bargaining coverage denotes the percentage of potentially eligible workers covered ("adjusted" coverage in the OECD data), with missing years for certain countries filled using linear interpolation. Codetermination indices are measured by Adams et. al. (2023) for the Cambridge Centre for Business Research (CBR) where the total index for each country is computed as an average of two codetermination measures (board-level and shop floor-level) in the CBR data. All aggregate Euro Area measures (blue) are computed as an unweighted average of indices across the Bergeaud et. al. (2024) Euro Area countries, except bargaining coverage, which is computed as a labor-force-weighted average.

Taxation.

The average labor tax wedge on labor has stayed stable in both the US and Europe—with European taxes being about 45% (a percentage point gap of about 12 divided by the US tax rate of about 30%) higher in Europe compared to the US. In terms of the tax wedge (one minus the tax rate), Americans take home about 22% more than Europeans by that average tax measure. (Average tax rates are incomplete descriptions of the tax system, and miss transfers and subsidies.)

Collective bargaining.

Collective bargaining coverage, too, remains high throughout Europe (excluding the UK as well as a small decline in Continental Europe, reflecting the case of Germany Jäger, Noy and Schoefer 2022). As a caveat, collective bargaining institutions are heterogenous and coverage rates alone do not measure accurately the strength and bite of the collective contracts (see, e.g., Bhuller, Moene, Mogstad and Vestad 2022,

Jäger, Simon, Suresh Naidu, and Benjamin Schoefer 2024 for an international assessment).

A trend masked by coverage rate is the level of bargaining. In many settings, bargaining has become more decentralized, by moving bargaining units to lower levels, or by giving local levels flexibility of setting pay subject to nationally agreed on wage growth floors.

Importantly, collective bargaining often does not explicitly involve the government, but it occurs in the shadow of the labor law and governments can directly or indirectly influence the strength, scope and shape of this institution, such as through mandatory extensions or coverage mandates (as in, e.g., Italy), or by restricting the right to strike (as in the UK during the 1970s and 80s). Moreover, the EU has issued the directive on "Adequate minimum wages for workers," requiring member countries with coverage rates below 80% to produce an action plan to raise coverage.[3]

Codetermination.

While particularly hard to quantify, essentially all European countries feature some codetermination: granting workers the right to, or even mandate for, formal voice in corporate decision making, either through shop floor representation (e.g., German works councils), or even through formal seats on company boards. Codetermination rights are typically encoded in the labor or corporate law, although unions are often involved in bringing about worker representative elections and are often union members. Again, these laws are very heterogeneous (see Jäger, Noy and Schoefer 2022 for a partial review across countries), and with large variation in the scope, breadth, and depth of actual formal rights to affect company operations. Based on the CBR labor regulation index by Adams, Billa, Bishop, Deakin and Shroff (2023), the US has maintained the complete absence of codetermination, as illustrated by the US index at zero throughout the sample period. By contrast, these rights have if anything been expanded and strengthened in Europe. For instance, the EU has issued Directive 2009/38/EC (replacing an 1994 one, 94/45/EC) that requires the establishment of some codetermination bodies in many European firms.

3.2 Checking for Remaining Symptoms of Eurosclerosis: Old and New Perspectives on the European Unemployment Problem

With a large set of European labor market policies in place, I now check for remaining symptoms of Eurosclerosis in present-day labor markets and for links with labor market institutions.

[3] Minimum wages, due to the presence of strong collective bargaining, play different roles in Europe than in the US, with CBA wage floors often taking their place. In settings with declining coverage such as Germany, a minimum wage has been introduced. The minimum wage also plays an important role in France.

Necessarily, this section runs the risk of amounting to a sprawling account of the state of European labor markets. I start by updating the analyses in Blanchard (2006) and Boeri and Garibaldi (2009) on European unemployment. I additionally draw on micro data sets and check for remaining pockets of Eurosclerosis, such as along demographic and regional dimensions.

The unemployment-employment focus.

This section remains largely committed to the "old view" of labor market dynamics and performance: that labor markets largely reallocate workers from unemployment and employment, with workers then staying put at their job until it ends, to then reenter unemployment. This perspective also dominated the discourse on European labor markets, the institutions, and their effects. First, this regards the empirical analyses and diagnoses: who is unemployed? For how long? Where? Second, the perspective was also hardwired into the microscopes and telescopes that economists used to study European labor markets: the canonical theoretical search and matching models in the tradition of the Diamond-Mortensen-Pissarides macroeconomic model (similarly for the microeconomic McCall job search model).[4] Third, the debate also focused on the associated policy levers such as unemployment insurance design, active labor market policies for the unemployed, hiring subsidies for the unemployed, or employment agencies.

In the subsequent sections, I move to the "new view"—which considers labor market dynamism and specifically job to job transitions by employed workers as engines of workers' career progress, macroeconomic productivity growth, and beneficial reallocation.

Worker flows between unemployment and employment.

Illustrating that view on flows between employment and unemployment, Chart 6 shows the undelying worker transition rates. On the x-axis, it plots the average probability that in a given month, an unemployed job seeker finds another job ("UE rate"). On the y-axis, the scatterplot reports the average probability (informally, the "rate") that an employed worker becomes unemployed ("EU rate"). The unemployment rate emerges from the balance between the resulting inflows and outflows of unemployment (formally, it equals the EU rate divided by the sum of the UE and EU rates). Higher UE rates and lower EU rates mean lower unemployment, as the unemployed find jobs faster or get to keep them for longer. (The graph ignores labor force participation flows and moreover does not distinguish between fixed term jobs and open-ended contracts, which make up a major source of flows in several European countries.) I here draw on the cross-country transition probability data provided in Borowczyk-Martins (2025).

[4] In those models, firms create jobs, which are initially vacant and hence enter the labor market as vacancies. Through firms' recruitment effort, these job vacancies aim to meet job seekers that can decide whether or not to accept those jobs. The at least initially dominant approach was the idea that job searchers are unemployed, and that the unemployed are the job searchers.

There are striking differences across countries. Broadly, economies in the North East of the graph indicate higher “churn” and more fluid economies: jobs do not last long– but neither does unemployment. Economies toward the origin, in the South West of the graph, indicate “sclerotic” economies in the specific and quantifiable sense of worker flows: unemployment is a persistent state, but so is employment. (Ignoring distinctions between unemployment and being out of the labor force and lumping them together into an agnostic and general “nonemployment” state yields a similar picture, see Appendix).

Job finding: UE transition rates.

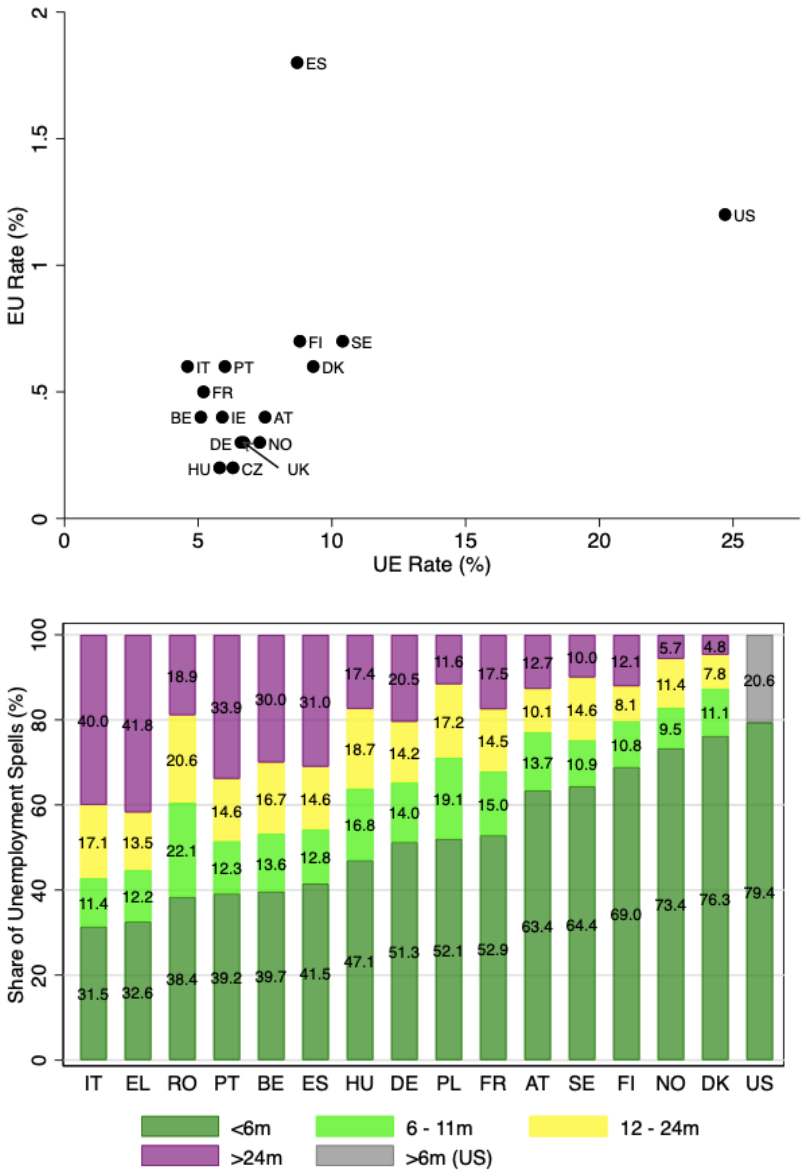
Consider the UE transition rates. Overall, the Nordic labor markets evidently reallocate unemployed workers faster back into employment than the “Mediterranean” peers, with the “Continental” cluster being somewhere in between. Once a worker in France or Italy loses a job and becomes unemployed, that state is going to last for a while because escaping (or being willing to leave) unemployment is a relatively rare event in a given month for the typical unemployed person. Hence, unemployment is long. The probability is about twice as large in Denmark. Relying on slightly different data and variable definitions, the bar chart in Chart 6 plots duration of unemployment across European countries and the US. Consistent with the picture that emerged by measuring transition probabilities, unemployment remains overall long in Europe, with many more individuals having very long spells above 1 or 2 years. By contrast, the US unemployment statistics do not even capture such long unemployment rates, with the Bureau of Labor Statistics’ Current Population Survey cutting off measurement at 6 months—consistent with the fact that about a quarter of a US unemployed worker moves back into employment in a given month.

Job loss: EU transition rates.

Chart 6 makes clear that job loss, as measured by employment-to-unemployment (EU) transitions, is rare in Europe, often less than half as likely as in the US. This is plausibly due to employment protections restricting dismissals.

Moreover, the scatter plot illustrates the overall positive correlation between UE and EU transition rates: in countries where an unemployed individual finds a new job slowly, they will keep it much longer once employed. One important explanation for this positive correlation is again the strong employment protection in European economies (besides by naturally curbing dismissals by raising their cost, it depresses hiring as employers anticipate these same dismissal costs).

Chart 6
Labor market flows between unemployment and employment: transition probability per month, for European countries and the US, and distributions of unemployment duration



Notes: The figure documents cross-country differences in labor mobility. The top panel shows monthly transition probabilities estimates from Borowycz-Martins (2025) based on EU-LFS and CPS. Transition probabilities are given in percent. The bottom panel shows the composition of unemployment durations among the unemployed in European economies and the United States between 2022 and 2023. For European economies the distribution of unemployment durations is estimated from the EU-LFS using provided survey weights. For the United States I rely on seasonally adjusted estimates reported by the BLS.

Other margins of churn: fixed-term jobs.

Importantly, an important feature of European labor markets are fixed term contracts (FTC), which generate considerable flexibility as contracts end automatically without protections at a prespecified point. These contracts plausibly account for a considerable share of EU transition probabilities in some countries such as Spain (the graph does not separate out contract types). I discuss FTCs further below.

Other margins of churn: long careers.

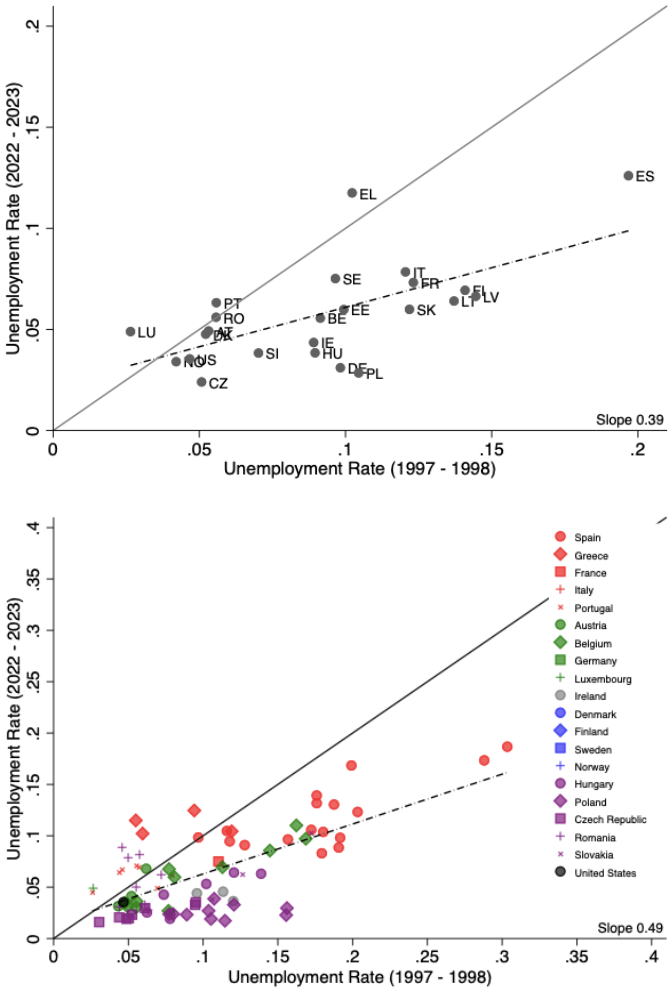
To preview, the low probability of losing a job will also generate the potential for extremely long job durations and lifetime jobs, with careers occurring almost entirely within the same employer—an important feature of European labor markets that is essentially absent in the US private sector. I dwell more on the implications for the duration of jobs in the next section below because jobs can also end through direct job-to-job transitions, which the current section intentionally sidesteps. To reiterate, a central theme of the paper is that these margins have traditionally received little attention in the conventional discussion of European labor markets and the role of institutions therein and of their implications for macroeconomic performance more broadly.

Country vs. sub-national margins of unemployment reductions.

Chart 6 below illustrates the gains countries have made in curbing unemployment, scatter-plotting the present-day (2022-23) unemployment rate against its counterpart in the 1990s, with the 45 degree line as the reference and a linear regression line. The regression line falls below that line and is noticeably flatter, as most countries have continued to make progress over the last 25 years in curbing unemployment. This graph substantiates further the conclusion reached by Boeri and Garibaldi (2009), that the European unemployment problem might have been—at least as judged by the catastrophic early levels—largely resolved—although unemployment remains arguably high in many countries.

While Europe's subnational regions are heterogeneous in labor market performance, the reductions in European unemployment are largely a story of country-level adjustment. Chart 7 additionally presents a subnational country-region (NUTS2) analysis. That is, every NUTS2 region is treated as its own datapoint. Contrary to the econometric concern that the more granular perspective may add measurement error and hence flatten the slope toward zero, it actually exhibits a steeper slope of about 0.7 (compared to the 0.4 slope across countries). This suggests that within-country gaps have been more persistent than those across countries.

Chart 7
The country-level and sub-national regional perspectives on the continued decline in European unemployment 1997-98 vs. 2022-23



Notes: The figure shows the persistence of unemployment across European economies, both at the country-level and at the sub-national regional level, between 2022 through 2023 and 1997 through 1998. The top panel presents country-level evidence. The bottom panel presents sub-national (NUTS2) regional evidence. Estimates for European economies are based on the EU-LFS. Estimates for the United States are based on the CPS. Calculations use the provided survey weights.

Some decline in long-term unemployment.

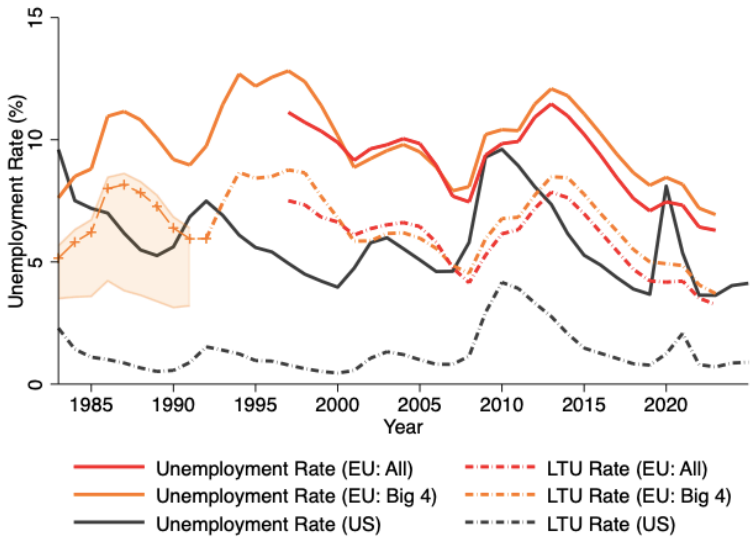
The bar charts in Chart 6 illustrated that long-term unemployment—here defined as 6 months and above for the censoring reasons given by the US data—is largely a European phenomenon. Europe still has a high level of long-term unemployment, due to its lower transition rate from unemployment back into employment discussed earlier.

Juxtaposing the evolution of long-term and total unemployment, Chart 8 documents a moderate decline in this share in unemployment, consistent with the idea of active labor market policies as well as reforms to the potential benefit duration of unemployment insurance having played a role (see, e.g., the account of Boeri and Garibaldi 2009). Specifically, Chart 8 plots the unemployment rate for all durations as well as the component due to long term unemployment. (Precisely, the series divides long-term unemployment numbers by the full labor force so that total and

long-term unemployment are in relatable units; again, long term unemployment is here defined as 6 months or more, the maximal duration recorded readily in the US data. The graph plots the “Big 4” economies as the longest time series due to data available, and starts plotting for pan-European data starting in 1996.) Long-term unemployment also accounts for much of the movements in the European labor markets.

But overall, as the figure shows and the duration distributions depicted in Chart 6 above revealed, the European unemployment experience remains a dramatically longer affair than the American one (perhaps with the exception of the Global Financial Crisis in the US). In fact, the lines in Chart 8 make for an intriguing calculation: whenever the black line—total unemployment in the US–is below the long-term unemployment rate in Europe (the dashed red/orange lines), there are more labor-force participants in long-term unemployment in Europe than unemployed of any duration in the US (recall that both are in shares of respective labor force sizes). The picture suggests that it needs a recession in the US for these lines to cross. By that benchmark, it seems premature to argue that Europe, at least as whole, has solved its long-term unemployment problem.

Chart 8
Long-term and overall unemployment rates, in Europe and the US



Notes: The figure shows the evolution of long-term unemployment rates in Europe and the United States since 1983. The long-term unemployment rate is defined as the share of the labor force in unemployment spells lasting longer than 12 months. I consider two samples of European economies: i) red lines represent population-weighted averages for a balanced sample starting in 1997 including the following European economies: Austria, Belgium, Czechia, Germany, Denmark, Greece, Spain, Finland, France, Hungary, Italy, Norway, Poland, Portugal, Romania, Sweden, ii) orange lines represent population-weighted averages for a balanced sample consisting of Germany, France, Italy and Spain. Data for European economies is taken from the EU-LFS. For the United States, I rely on series provided by the Federal Reserve Bank of St. Louis. Prior to 1992 the question on unemployment durations in the EU-LFS did not elicit information on spells lasting longer than 24 months, so that these spells cannot be distinguished from spells with missing duration information. I construct a range of estimates of the long-term unemployment rate prior to 1991. As a lower bound for the long-term unemployment rate, I consider the case where observations with missing information never represent long-term unemployment spells. As an upper bound, I consider the case where all observations with missing information present long-term unemployment spells, in which case the long-term unemployment rate is given by the difference between the unemployment rate and the short-term unemployment rate (referring to spells lasting fewer than 12 months). The orange shaded area depicts the interval spanned by these bounds. Thirdly, I construct an estimate assuming that the share of non-responses remained constant between 1983 and 1992, allowing one to construct long-term unemployment rates by subtracting short-term unemployment rates and a fixed non-response rate of 0.3% estimated in 1992 from the overall unemployment rate. Orange cross markers depict the resulting estimates for the long-term unemployment rate prior to 1992.

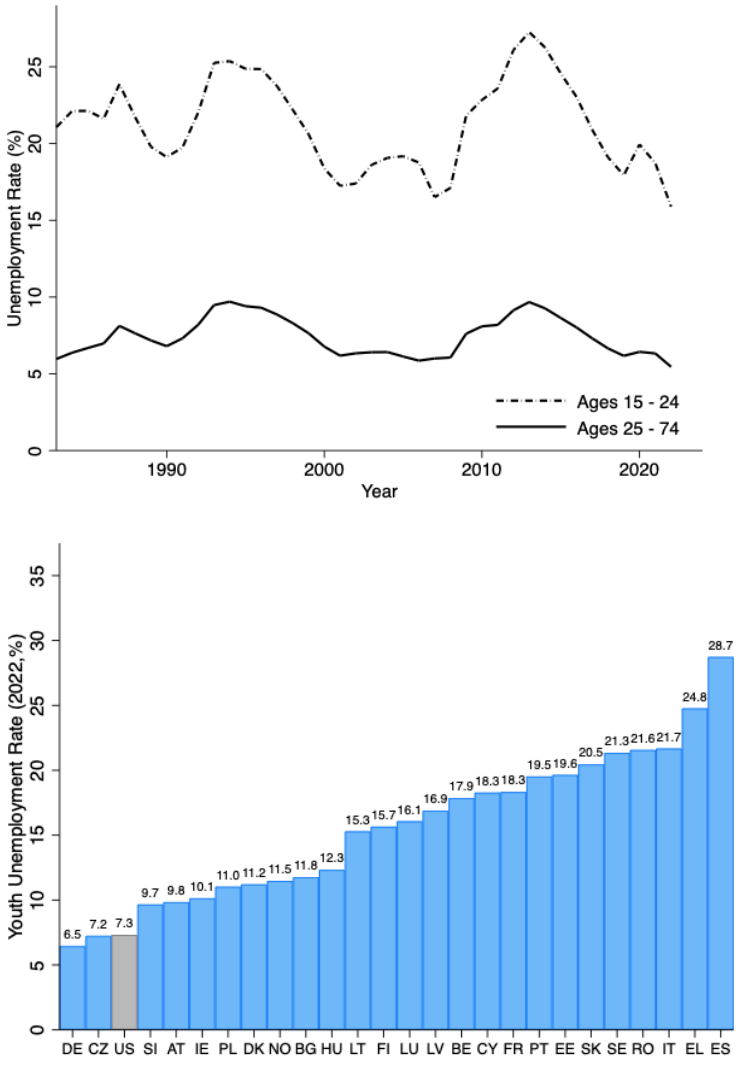
Youth unemployment.

Unemployment disproportionately affects “outsiders.” For instance, in the presence of wage setting that insufficiently differentiates by age or when young workers’ abilities are less observed, youth unemployment may be amplified. Seniority rules may explicitly older, higher-tenured workers. Similarly, the young may be more selective in their search and hence prolong their search. Indeed, Chart 10 shows that youth unemployment remains strikingly high in Europe: about 15-20%.

Characterizing the composition of European youth unemployment, Chart 11 shows, for NUTS2 regions and countries, results consistent with a cross-sectional insider/outsider pattern: for a 1 percentage point increase in the unemployment rate across European countries or regions (computed for middle-aged workers (35-44) to avoid a mechanical bias), the youth unemployment rate (15-24) increases by about 2.25ppt. This cross-sectional regularity appears to hold across countries and within. It suggests that an economy’s overall labor market tightness, rather than age-biased factors that vary across countries, do a good job at explaining unemployment rates.

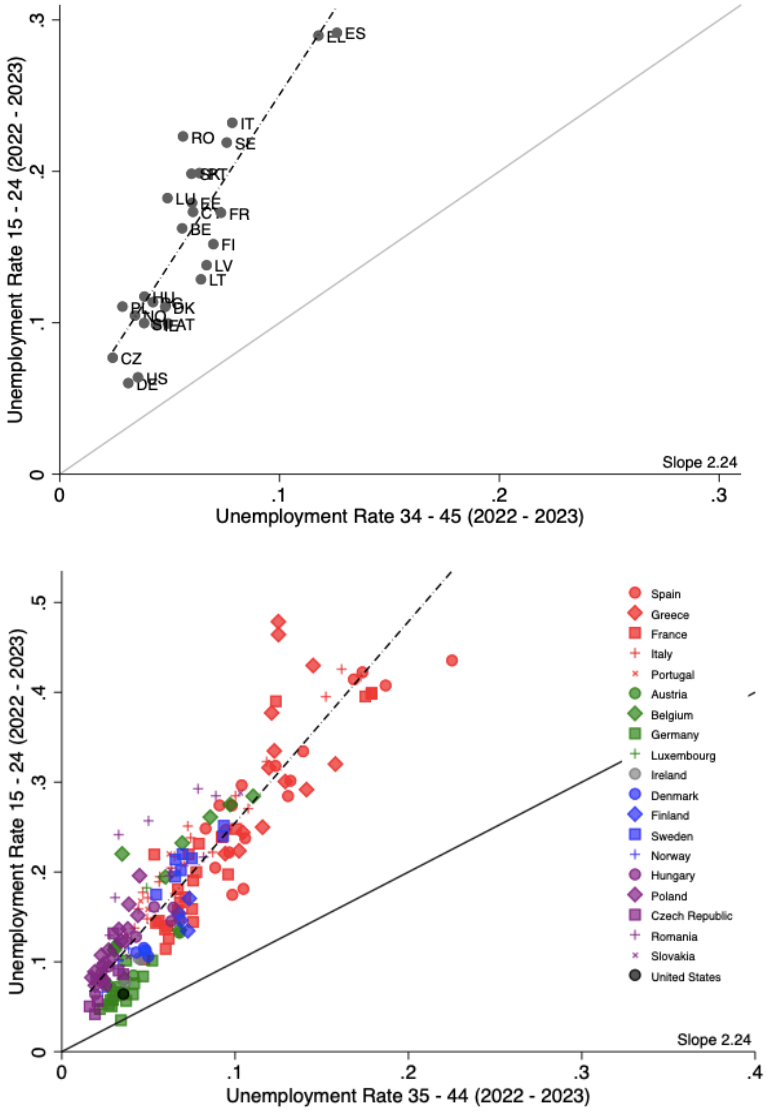
Moreover, Chart 12 clarifies that Europe has essentially made no particular and if anything progress in youth unemployment above and beyond the reduction in overall unemployment. It shows the persistence of age-specific unemployment rates between the late 1990s and 2019 , respectively for the young and middle-aged workers. The persistence (as measured by the fitted slope) is actually higher for youth unemployment than for older groups. Similar results hold for the subnational regional perspective (not reported).

Chart 10
Youth unemployment (15-24) and overall unemployment rates (25-74) in Europe



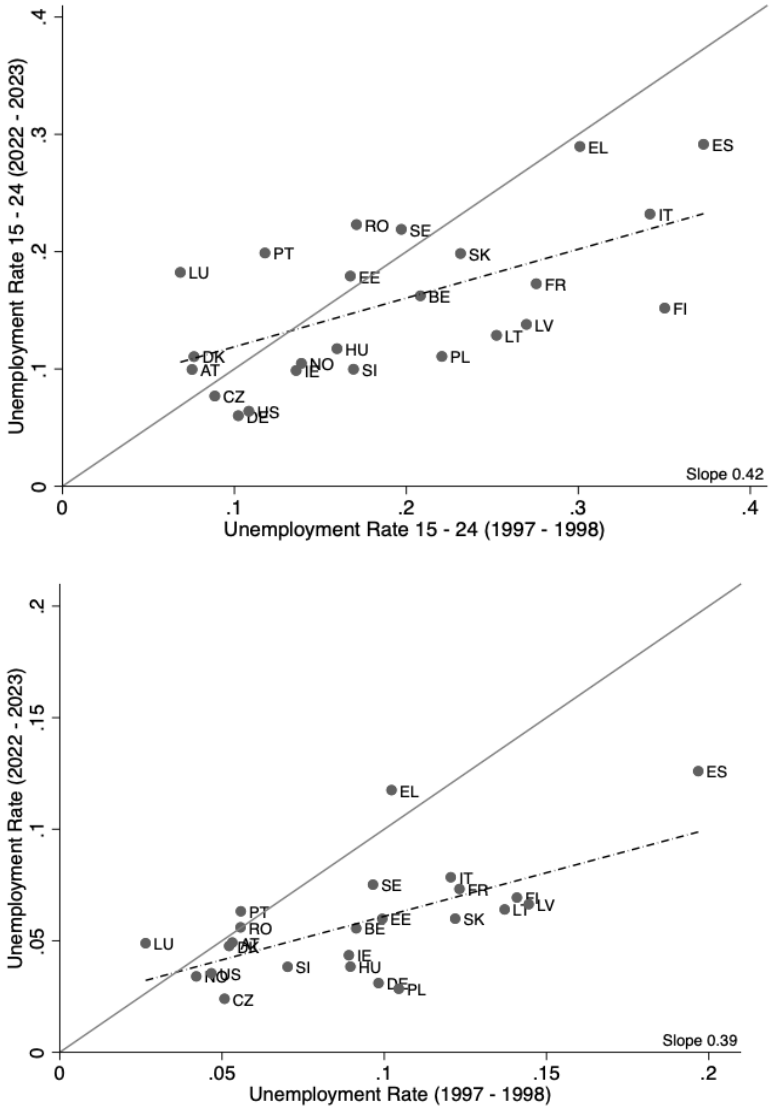
Notes: The figure shows European youth unemployment rates across time and member states. Youth unemployment refers to the population between the ages 15 to 24. Rates are expressed in percent. The top panel shows the evolution of youth unemployment rates among the EU15 member states between 1983 and 2024. The data source is OECD. The bottom panel shows youth unemployment rates in European economies and the United States between 2022 and 2023. The data source is the EU-LFS for European economies and ASEC for the United States. Calculations use the provided survey weights.

Chart 11
Youth (15-24) and middle age (35-44) unemployment



Notes: The figure documents the relationship between youth unemployment and prime age unemployment (individuals between the ages 35 to 44) in Europe at the country-level and the sub-national regional level between 2022 and 2023. The top panel shows the relationship between youth and prime-age unemployment at the country-level. The bottom panel presents this relationship at the level of European NUTS2 regions. The reported slope in both panels is obtained from a linear regression that excludes the United States. Estimates for Europe are based on the EU-LFS. Estimates for the United States are based on ASEC. Calculations use the provided survey weights.

Chart 12
The country-level perspectives on the continued decline in European unemployment 1997-98 vs. 2022-23: youth vs. middle-age unemployment

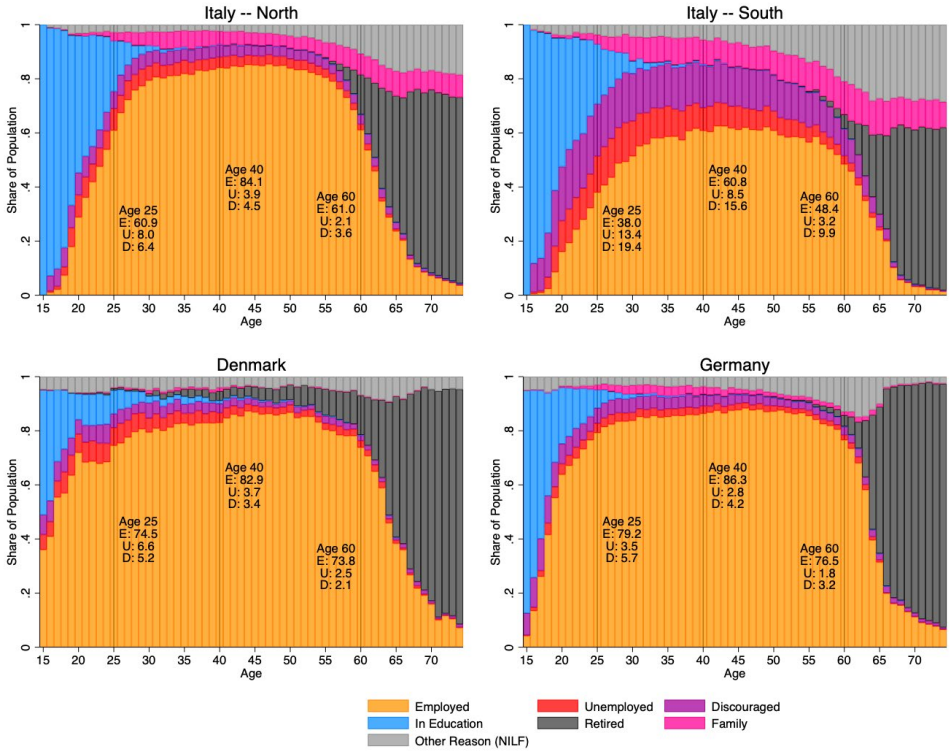


Notes: The figure shows the persistence of unemployment across European economies between 2022 through 2023 and 1997 through 1998. The top panel shows the persistence of youth unemployment, defined as the number of unemployed divided by the number of unemployed and employed between ages 15 to 24. The bottom panel shows the persistence of unemployment in the overall working age population between ages 15 to 74. Unemployment rates are estimated from the EU-LFS for European economies and the ASEC for the United States. Calculations use the provided survey weights.

Labor force outcomes by age and country.

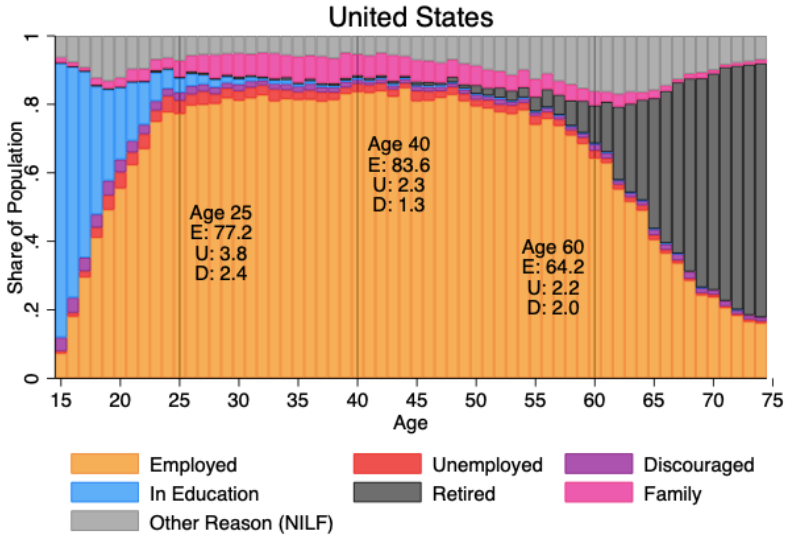
In Chart 13, I plot labor market outcomes by age. (While these graphs evoke a “life cycle” perspective, they are cross-sectional graphs in that they compare different cohorts at the same point in time.) I choose three particularly striking examples of European labor markets: Germany, Denmark, and Italy—the latter of which I, for effect, split up into South and North, to highlight one of the starkest and most prominent persistent regional differences in Europe. These vastly different biographies illustrate how much place still matters tremendously for Europeans’ labor market outcomes even beyond wages and overall unemployment rates. Chart 12 replicates this figure in US (Current Population Survey) data.

Chart 13
European labor market biographies: cross-sectional graphs by age



Notes: The figure presents a partition of the working age population across the European economies between 2022 and 2023. The upper row presents the partitions for Northern and Central Italy on the left, and Southern Italy on the right. Data comes from the LFS. The definitions for employed and unemployment follow ILO conventions. I classify as Discouraged workers who report that they are non-employed and not searching, but would be willing to work, but do not state caregiving or family matters, retirement or education as reasons for their non-employment. Individuals who are not employed and unwilling to work, but have obtained either education or training in the last four weeks are classified as In Education. Workers who state that they are not working due to caregiving or family matters assigned to a separate group denoted by Family. Workers not falling into one of those categories are counted under Other Reason. Calculations use the provided survey weights. Numbers reported in the graphs represent the shares in percent of employment (E), unemployment (U), and discouraged workers (D) in the population at a given age.

Chart 14
US labor market biographies: cross-sectional graphs by age



Notes: To provide an analog of Figure 13 for the US, the above figure relies on the CPS March Annual Social and Economic Supplement. The questions differ slightly from those asked in the EU-LFS after 2021. The main difference concerns coding discouraged workers. The BLS takes a more narrow definition of discouraged workers. It distinguishes between individuals who want a job, have searched for work during the prior 12 months, and were available to take a job during the reference week, but had not looked for work in the past 4 weeks; and on the other hand those who did not actively look for work in the prior 4 weeks for reasons such as thinks no work available, could not find work, lacks schooling or training, employer thinks too young or old, and other types of discrimination. In principle, one can distinguish these two using the ASEC's variable PRDISC. However, to remain consistent with the EU-LFS, these two categories are combined. Effectively, that means that anyone who is not working, not retired, disabled, not in school, not abstaining from work due to taking care of home, but wanting to work while not searching in the reference month is classified as a discouraged worker. The ASEC allows one to isolate different reasons for non-employment. Family reasons is chosen if they report taking care of home as the main reason for not working (in the previous year); as Retired if they are not classified as caregivers in the first step, and report Retired as the main reason for not working; as In education if they are not classified in a previous step, and report Going to school as the main reason for not working; and as Discouraged if they report not working, are not classified in a previous step, but report that they want to work. All remaining individuals who are neither employed nor unemployed are assigned to a residual category Other Reason (NILF) capturing all remaining reasons for non-participation, such as disability.

4 "Bad Dynamism:" Duality and the Rise of Non-Standard Work Arrangements

An analysis of the evolution of European unemployment would be incomplete without the acknowledgement that its decline has been accompanied by a growth in non-standard work arrangements. That is, there emerged a dual labor market, with a secondary market composed of, e.g., fixed-term contracts, jobs not covered by collective bargaining, or marginal, part time jobs, with the mix and nature differing by country. The causal connections between these trends remain, overall, open questions—but the natural interpretation is that they constitute evasion responses to strong labor market rigidities (Cahuc, Charlot and Malherbet 2016). In some cases, the non-standard work arrangements appear to have shown up exactly in the pockets of the labor market in which high European unemployment had been particularly pervasive, such as the young. Overall, the data suggest considerable room for the unemployment problem to have at least been partially solved by dualism (with ambiguous net effect in principle if boosting churn, see Blanchard, and Landier 2002; Cahuc, Charlot and Malherbet 2016).

Importantly, such labor market dualism might appear to constitute labor market dynamism—but arguably "bad dynamism" rather than the "good" kind that may still be lacking and constrained by European labor market institutions, as I explore in the subsequent sections. These forms of flexibility may reduce unemployment, but they do not produce the productivity gains associated with genuine reallocation and career progression. In fact, they might dampen productivity if workers are trapped in temp or part-time jobs without growth prospects. Moreover, these pockets of flexibility were largely carved out for lower-wage and lower-education segments, rather than being suitable for the high-human-capital activities that have been the focus of the most recent debate on the transatlantic performance gap.

4.1 Fixed-Term ("Temporary") Contracts

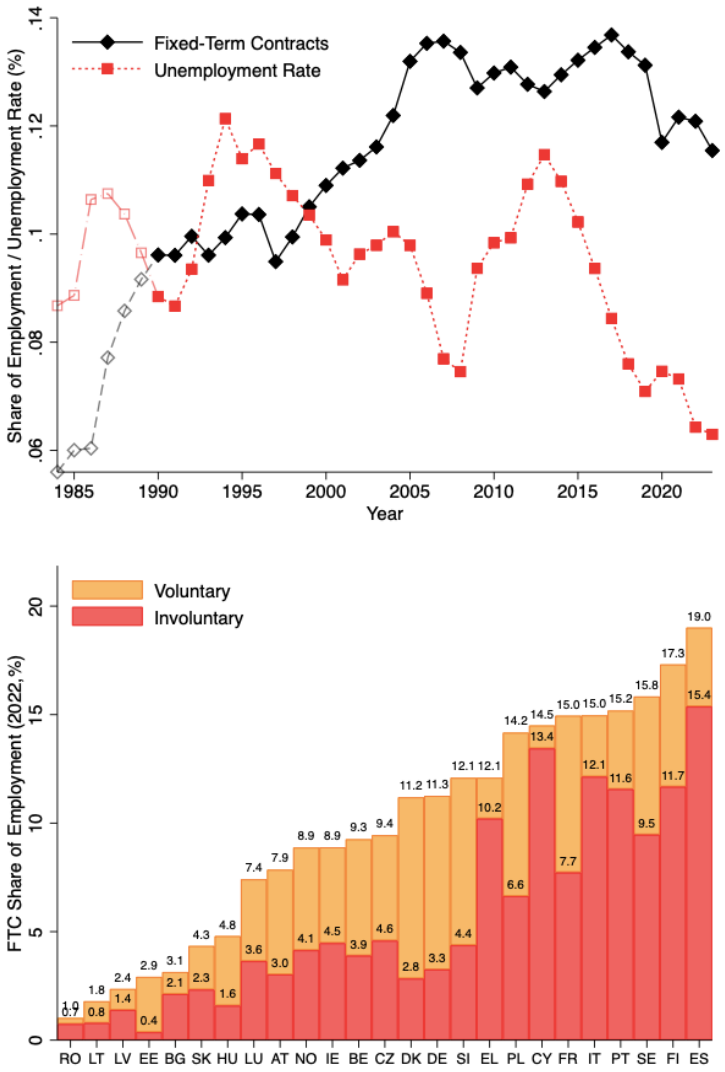
Chart 15 illustrates the sharp growth in the share of employed workers whose contract is a fixed-term (or temporary) one, which at its peak rose to 14% of European workers. Hence, evidently, European countries have, as unemployment fell, facilitated, or at least accommodated, the emergence of a two-tier labor market. For instance, Daruich, Di Addario and Saggio (2023) study the effects and incidence of an Italian 2001 reform that liberalized the use of fixed term contracts.

As Chart 15 shows (which also separates out "involuntary" such work arrangements), there is large variation in fixed term contract use across European countries even within "country clusters." FTCs are prominent in most of the "Mediterranean" countries (Portugal, Italy, Spain, and France)—but less so in Greece. Within the "Continental" cluster, FTCs are used somewhat less in Austria than in Germany. The Nordic countries have also seen a rise of fixed term contracts, even in Denmark, whose "flexicurity" system would perhaps be expected to accommodate turnover in open-ended contracts, too.

The incidence of fixed term jobs is also heterogeneous within countries. Chart 16 below plots some case studies drawing on micro-level worker data in the EU-LFS, and again focuses on the age distribution. (FTCs can also include probationary periods in OECs but are a small component.) FTCs make up a large share of employment for young workers in the "Mediterranean" economies such as Spain, Italy, France. They remain important but less so among middle-aged workers. They essentially disappear as workers grow older. In the Nordic systems, there is a mixed picture. Denmark appears to have successfully avoided fixed term contracts. But across the Baltic Sea, Sweden, which has a youth unemployment problem (Saez, Schoefer and Seim 2019), has a large share of FTCs among younger workers, too. But strikingly, FTCs do not disappear among Swedish older workers—in stark contrast to the other, Mediterranean settings, where FTCs are irrelevant for older workers. The resolution of this puzzle is that in Sweden, a combination of flexible retirement accounts and uniquely flexible EPL rules permit workers to continue to put in hours beyond their retirement age and because Sweden permits unlimited repetitions of such contracts for older workers (Saez, Schoefer and Seim 2024).

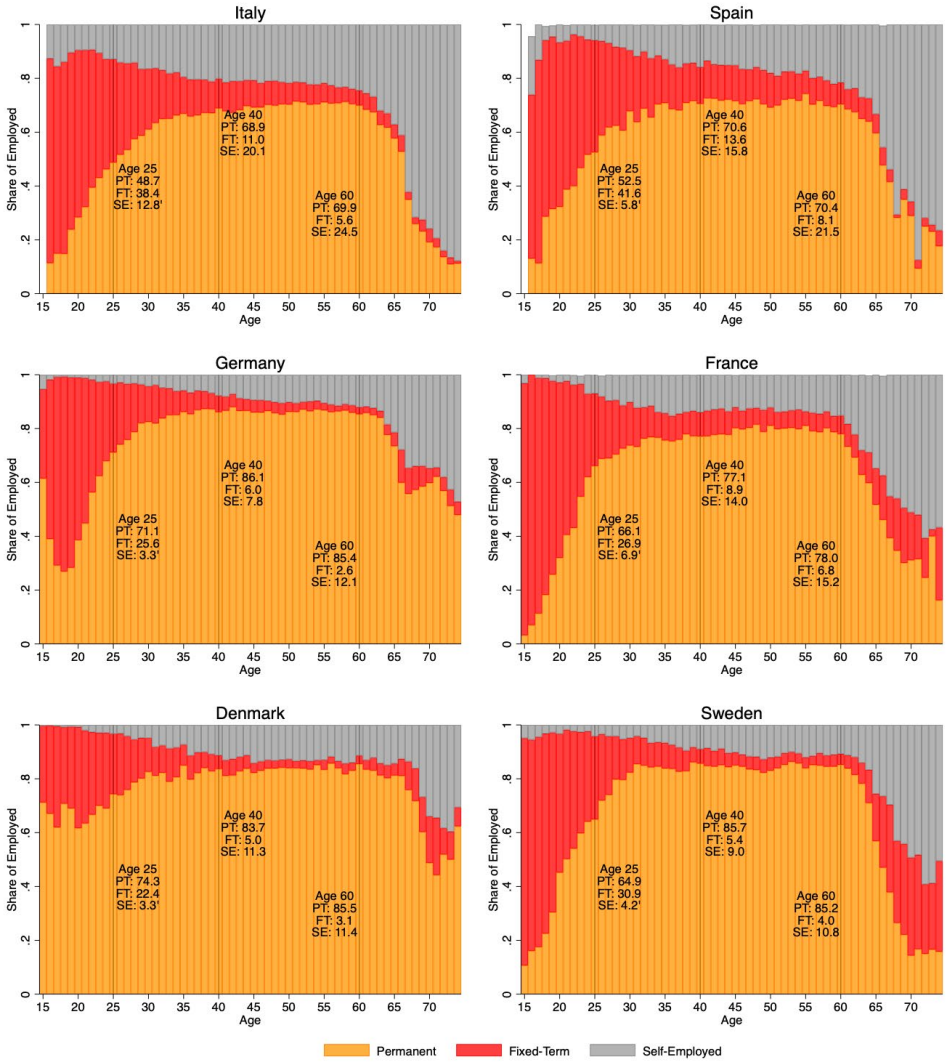
Finally, as a Continental economy, Germany features a large share of FTCs but they become less important among prime age workers.

Chart 15
The European unemployment rate and the share of employment in fixed-term contracts



Notes: The figure documents the prevalence of fixed-term contracts (FTCs) over time and across European economies. The top panel plots the share of FTCs among all jobs together with the unemployment rate between 1984 and 2024 in an unbalanced sample of European labor markets. The bottom panel shows the prevalence of FTCs across European economies between 2022 and 2023 and decomposes it into voluntary and involuntary FTC prevalence. I classify FTC use as involuntary or voluntary based on a worker's self-reported main reason for FTC use in the given job. I define involuntary FTC as taking place if a worker responds that either that i) they Could not find a permanent job, or ii) This type of job is only available with a temporary contract. The remainder is classified as "voluntary" (including apprenticeships, a large share in Austria, Germany and Denmark). The sample is restricted to workers between the ages 15 to 74. The data source is the EU-LFS. Calculations use the provided survey weights.are neither employed nor unemployed are assigned to a residual category Other Reason (NILF) capturing all remaining reasons for non-participation, such as disability.

Chart 16
Fixed term contract incidence across the age distribution



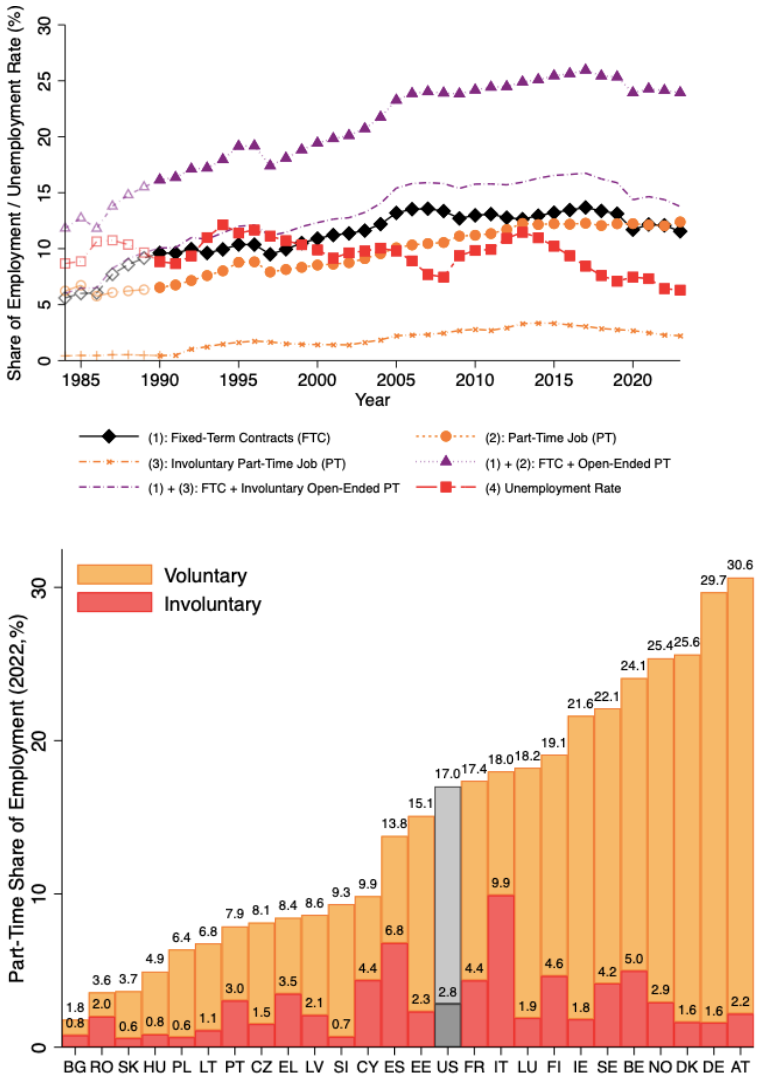
Notes: The figure shows the composition of employment across the life-cycle in different European economies between 2022 and 2023. Data comes from the EU-LFS. Employment status is self-reported and can take on three different types: permanent employment (PT), fixed-term employment (FT) and self-employment (SE). I drop observations with missing information on employment status. Calculations use the provided survey weights.

4.2 Part-time Jobs and Hours Flexibility

Part-time jobs are another increasingly important non-standard work arrangement. Chart 17 replicates Chart 15 but additionally plots the time series of the share of workers in part-time jobs over time (using the EU-LFS part vs. full time indicator) plus the workers that are either in a FTC or in a part-time (PT) job (avoiding double counting by relying on the micro data, i.e., adding only PT jobs in open-ended contracts). While imperfect, I also include a version that uses additional survey questions to isolate “involuntary” such work arrangements. In terms of percentage points of share in overall employment, the rise of PT jobs was even somewhat larger

than that in FTCs—implying that by the 2020s, these two non-standard work arrangements amounted to 30% of European employment. While a full account of the effects on European unemployment and reduction in labor market rigidities is a difficult equilibrium question (which would also include an analysis of labor force participation margins and a focus on demographic heterogeneity), the size of that increase leaves room for a sizable effect.

Chart 17
The European unemployment rate and the share of employment in part-time contracts—and in fixed-time jobs, or either



Notes: The figure shows the prevalence of non-standard work over time and across European economies. The top panel documents how deviations from full-time, open-ended contracts evolved over time in European labor markets. Starting in 1997 the sample is balanced and comprises: Austria, Belgium, Czechia, Germany, Denmark, Greece, Spain, Finland, France, Hungary, Italy, Norway, Poland, Portugal, Romania, Sweden. The sample is unbalanced prior to 1997. Estimates prior to 1990 should be viewed as preliminary. Black dots represent the share of fixed-term contracts among all jobs in a given year. Orange dots present the share of jobs that are open-ended part-time contracts. The dashed orange line presents the share of jobs accounted for by open-ended involuntary part-time work. Involuntary part-time is measured using self-reported information on an individual's main reason for working part-time. For European economies I rely on the EU-LFS and classify individuals as working part-time involuntarily if they report that they Could not find a full-time job as their main reason for part-time work. Red dots represent the unemployment rate. The bottom panel documents the prevalence of voluntary and involuntary part-time work across European economies and the United States. For the United States, the data source is ASEC and I define involuntary part-time work as part-time work that takes place due to economic reasons – respondents report working part-time either due to i) slack business conditions, ii) seasonal work, or iii) because they could only find part-time work. Shares are expressed in percent. The population is the universe of workers between ages 15 to 74. Calculations use the provided survey weights.

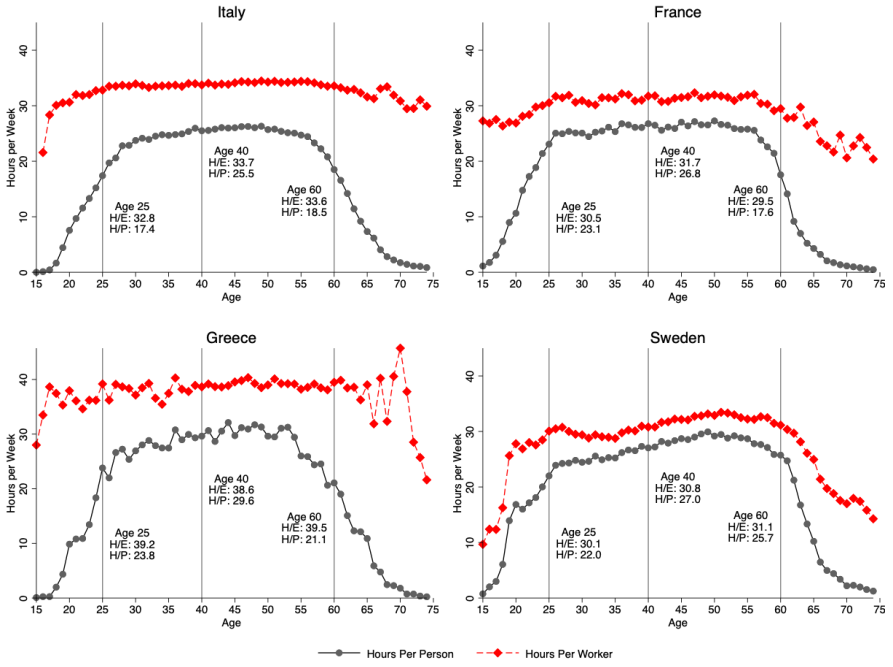
To reiterate, this rise reflects a mix of shifts in labor force composition and potentially shifts in labor demand (e.g., the structural transformation from manufacturing to the service sector)—on top of regulatory factors. For instance, in the case of Germany, since the mid-2000s and the Hartz reforms, “minijobs” emerged as a regulatorily favored employment vehicle, e.g., not subject to most labor regulations and payroll taxes but subject to a low monthly earnings cap—institutionalizing a subsidized pathway into low-wage and low-hours employment.

The incidence of part-time work is also heterogeneous between countries in Europe. Chart 17 also presents a bar chart that plots the share of part-time work by country among employed workers and also uses the survey-based distinction of involuntary vs. voluntary part-time work (despite the caveats associated with this outcome).

But again, an important dimension about the role of part-time work and hours flexibility is revealed in a more micro perspective. Chart 18 plots age profiles by country for two working-hours-related variables. The black line in circles plots the total amount of hours worked per capita. Second, the red plots the hours worked per worker. Intuitively, the gap between the two lines (precisely: their ratio) reflects the employment-population ratio gradient by age.

Some striking patterns emerge within and across countries above and beyond a focus on employment rates. In some countries—Italy, France, or Greece—average hours worked (conditional on working) appear very stable over the lifecycle, centered around 30-40 hours. In those countries, hours worked per capita steeply rise and fall outside of 25 and between 55 and age 70. Here, it appears that people largely hold full-time jobs or are not working at all. France, a country with exceptionally detailed and purposeful intervention in working time, now upholds a minimum hours floor of 24h per week (Carry 2022), which is one potential driver in the seemingly rigid hours structure. By contrast, Swedish hours worked per worker rise and fall more in a triangular gradient in age—which appears to prop up labor supply particularly among the old. Saez, Schoefer and Seim (2024) show that the regulatory environment in Sweden makes it easy for older workers beyond a standard retirement age to stay in their original jobs but switch to part-time. The figures suggest that a blanket model of lifetime labor supply “triangular” productivity-age gradients with technologically given convex returns to hours worked (as in Rogerson and Wallenius 2009) is unlikely to be a full description of the rich heterogeneity in European lifecycle labor market attachment, with labor market regulations plausibly playing an important role.

Chart 18
Hours worked per capita and per worker, by age



Notes: The figure shows average actual hours worked by age for different European economies between 2022 and 2023. The hours measure includes hours worked in both the primary and secondary job. Gray lines depict hours per population. Red lines depict hours per worker. Employment is defined following ILOSTAT definitions. Calculations use the provided survey weights.

4.3 Leaky Collective Bargaining Coverage and the Unemployment-Wage Trade-off

As depicted in Chart 5 above, collective bargaining coverage remains high in most European countries. While rigidities in collective bargaining have been at the center of high European unemployment since the early days of Eurosclerosis–see Giersch (185) and Siebert (1997)—in many European countries, employers have sought to evade coverage to save labor costs or gain flexibility on other margins.

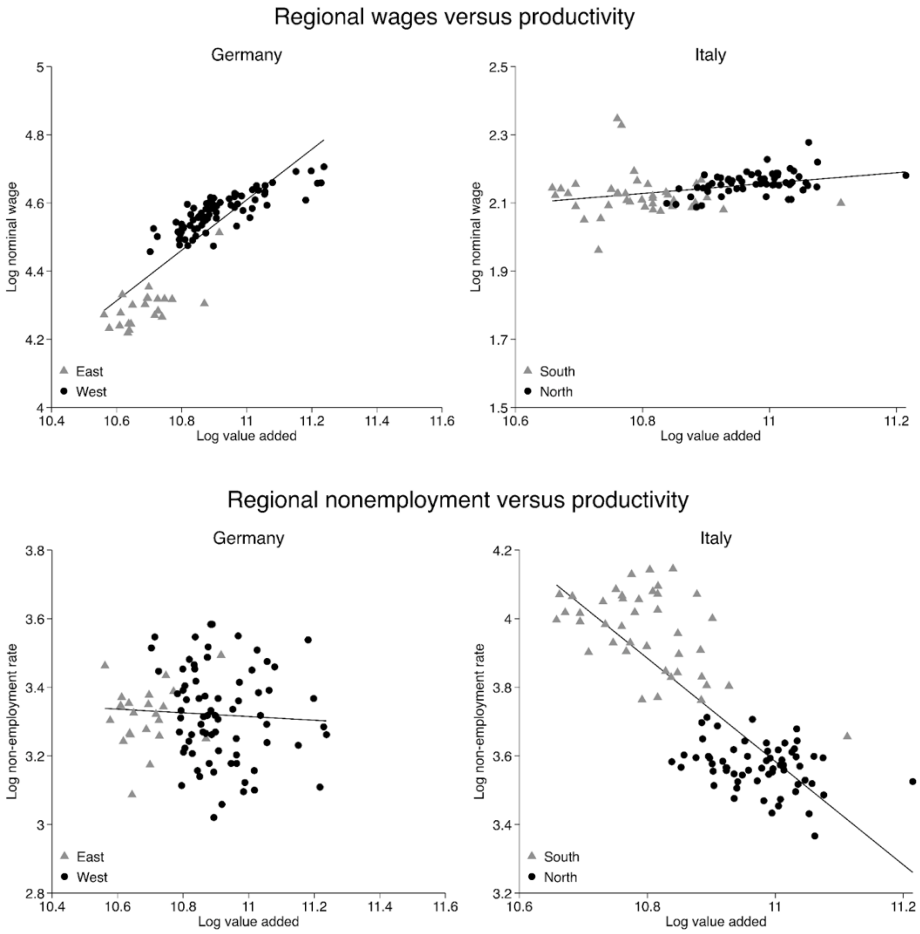
Microempirical research causally linking coverage with unemployment, wages or, more broadly, macroeconomic performance measures remains relatively limited. This situation reflects in large part data constraints, in the form of limited microdata on coverage and the characteristics and conditions of applicable collective bargaining agreements. In most settings, CBA contract information (wage scales by worker type) is either not available, or would be hard to connect with a specific worker or firm in micro data. Hence, the micro and macro effects of collective bargaining on the wage structure and labor market outcomes more broadly remain an active area of research (Jäger, Naidu and Schoefer 2024), along with the interplay with productivity growth (Kügler, Alice, Uta Schönberg, and Ragnhild Schreiner 2018, Schoefer 2021). Beyond measurement issues, suitable empirical variation in coverage status is rare due to endogeneity or absence of variation (e.g., in settings with full coverage).

In the author's personal view, the strongest case consistent with the view that, at least extreme versions of, rigid collective bargaining coverage with the outcomes that have traditionally occupied the debate on European unemployment, is the analysis by Boeri, Ichino, Moretti and Posch (2021). The core message can be summarized in just four scatterplots, which I reproduce below in Chart 19. The analysis is at the subnational regional level, juxtaposing outcomes across German regions and Italian regions. Both countries exhibit tremendous variation in local productivity, along which the scatterplots sort the subnational regions. Obvious fault lines are the South and Center-North in Italy, and the East vs. the West in Germany. But the two country's labor market institutions differ in the flexibility of their collective bargaining system: Italy features notoriously rigid national sectoral agreements, with wage floors largely set nationally with no conventional room for employers to deviate downwards. By contrast, in Germany (see Dustmann, Fitzenberger, Schönberg, and Spitz-Oener 2014, Jäger, Noy and Schoefer 2022), employers choose whether to be covered or not, as coverage status is tied to membership in employer associations, which is voluntary; another, likely more minor, margin are formal opt-out clauses and hardship clauses. Moreover, employers often pay premia above CBA wage floors even if covered. Chart 20 plots a graph from Jäger, Noy and Schoefer (2022) that illustrates that it is large and productive employers that select into coverage in Germany—and a similar picture would emerge across regions (e.g., coverage is much lower in the East).

Chart 19 shows that indeed, wages comove much more positively with regional productivity in Germany than in the, evidently more rigid, Italian system. However, the key achievement of Boeri et al. (2021) is to then test for the tradeoff between coverage and unemployment (here: nonemployment) rates. In Germany, local nonemployment rates are essentially unrelated to local productivity. In Italy, the relationship turns steeply negative. That is, in Italy's more rigid wage setting system, lower local productivity means fewer people at work. To the author, this series of simple scatter plots makes the most compelling case to date for a strong causal link from collective bargaining institutions to unemployment-related outcomes.

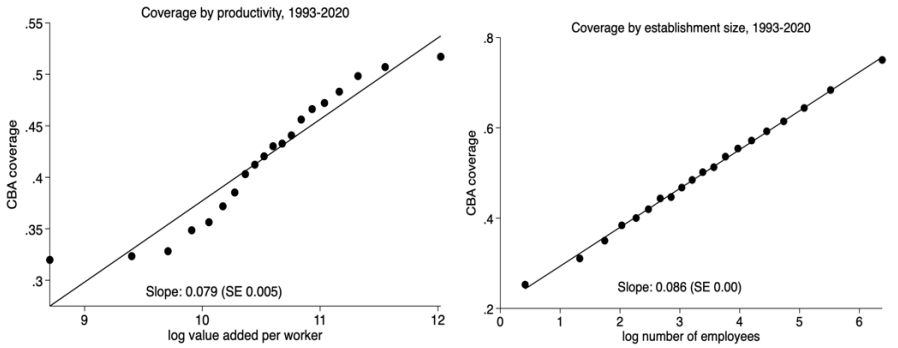
In Chart 21 below, I revisit Chart 13 above by zooming into life cycle perspectives on living in the North rather than the South of Italy. Employment is indeed much lower, particularly for the young, in the South. Unemployment is higher. But unemployment is not the only margin of adjustment: even more Southern Italians have dropped out of the labor force (stopped actively searching) because of poor job finding prospects—as indicated by the addition of the "discouraged worker" category in the figure. Summing employment, unemployment, and discouraged worker status by age and region reveals that this composite measure of labor supply is indeed much more similar between the North and the South than a simple comparison would suggest on the basis of (un-)employment only. This simple analysis further spotlights the role of institutions in continuing to shape the work life of Europeans depending on place, even in a country that has made tremendous progress in bringing down its aggregate unemployment rate.

Chart 19
Collective bargaining rigidities and local unemployment: Boeri, Ichino, Moretti and Posch (2021)



Notes: The figure reproduces Figures 4 and 6 from Boeri, Ichino, Moretti and Posch (2021). The panels show 2010 subnational regional scatter plots of log nominal wages (top panels) and log nonemployment rates (bottom panels) against local value added (a productivity indicator), separatively for Italian regions (provinces) and German regions, shading in gray vs. black the South vs. the Center-North and East vs. West, respectively.

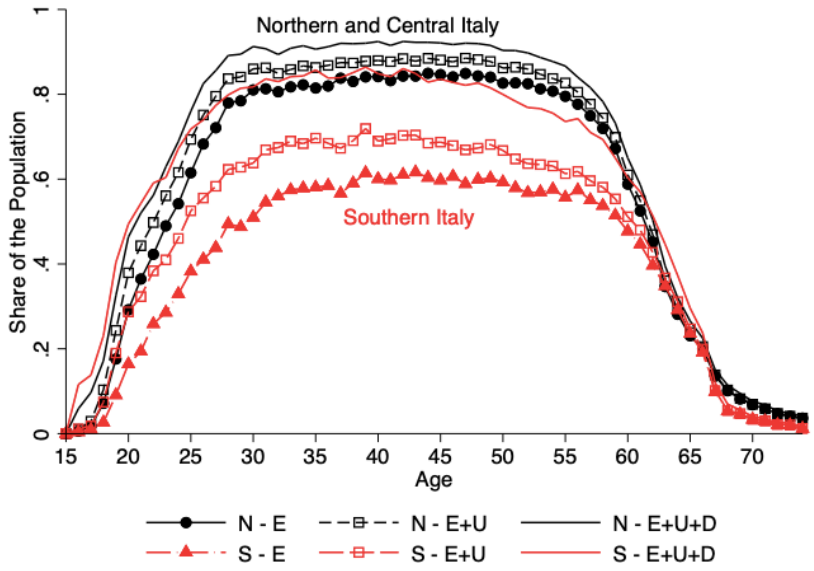
Chart 20
Employer selection into coverage in Germany



Notes: The figure reproduces Figure 4 in Jäger, Noy and Schoefer (2022), plotting the establishment-level relationship between an indicator for whether an establishment is covered by a collective bargaining agreement and its (log) size (employment) and labor productivity (value added per worker), controlling for basic industry and East/West geography controls in Germany and time (year fixed effects).

Direct causal and microempirical evidence on the effect of opting out remains rare for the data as well as institutional reasons described above. In complementary work, Dustmann, Giannetto, Incoronato, Lacava, Pezone, Saggio and Schoefer (2025) investigate incipient isolated cracks in the Italian collective bargaining system in the form of some firms opting out of centralized bargaining into non-standard agreements with less generous terms (such as “pirate agreements”). They document microempirical evidence for the trade-off between wage levels and employment rates for affected workers. Hence, despite many open questions and data challenges, a small set of existing results would indeed seem consistent with the idea that wage floors from collective bargaining—at least in the exceptionally rigid Italian centralized sectoral system—appears to exhibit the canonical but empirically elusive quantity/wage tradeoff for workers. More research is needed, across the variety of European industrial relations systems, to understand how collective bargaining shapes labor market outcomes.

Chart 21
Employment, unemployment, and “discouraged workers” status in Italy: South vs. North



Notes: The figure shows the evolution of different measures of labor force participation across the life-cycle in Northern and South Italy between 2022 and 2023. Black lines indicate estimates for Northern and Central Italy. Red lines present estimates for Southern Italy. Dots present the employment rate (E). Squares denote the labor force participation rate, where labor force participants encompass the employed and unemployed (U). Solid lines denote the labor force participation rate counting discouraged workers (D), defined as those who are willing to work, but are not searching for employment. Data comes from the LFS. Calculations use the provided survey weights.

4.4 Additional Facets of Dualism

Beyond the above non-standard work arrangements and evasion responses to strong labor market institutions, I close this section by briefly touching on three additional facets of dualism that appear of growing importance to European labor markets and are plausibly related to labor market institutions.

Outsourcing and subcontracting.

The first facet is the notion of outsourcing–in particular domestic sourcing, whereby firms draw on other employers to fulfill tasks otherwise conducted in-house. In an influential paper, Goldschmidt and Schmieder (2017) show that such outsourcing events are associated with lower wages for the affected workers on the order of 10-15%, with implications for overall wage inequality. A harmonized cross-country study of domestic outsourcing remains an open question, perhaps due to data constraints.

Temporary work agencies.

In part to overcome employment protection regulations (or limits on fixed term contract length), employers in Europe have drawn on temporary work (or staffing) agencies to satisfy their labor demand–a specific and increasingly important facet of domestic outsourcing. In these arrangements, the formal employer is a temporary work agency, but the place of work is at a separate client firm, often but not always alongside colleagues with regular contracts. Often, the law requires that workers hired by temp agencies are paid similar wages to colleagues in regular contracts in the client firm. While hardly any settings record the required information in matched employer-employee data to assess de facto relative working conditions (namely, requiring triply linked data between client firm, temp agency, and the worker), it appears that firms indeed manage to hire such workers at a discount, implying some room for firms to get around those regulations (existing studies concern Argentina and France, see Drenik, Jäger, Plotkin and Schoefer 2023, and Bergeaud, Antonin, Cahuc, Malgouyres, Signorelli, and Zuber 2024).

Gig/platform work.

An important dramatic innovation in labor markets across the world is the emergence of self-employment/contracting arrangements with largely digital platforms in the service sector (chiefly to private households: delivery or transportation services). With labor market institutions largely regulating dependent employment relationships, the ongoing policy discourse relates to classification of these arrangements. Empirical questions put their share at a growing number, with some estimates on par with total manufacturing employment. As for all the above facets of non-standing work arrangements, young (and otherwise marginal, such as recent immigrants) workers tend to take up such work. Measurement as well as regulation

have yet to catch up, with the most recent EU-wide regulation being the 2024 EU Platform Work Directive, which member states are to implement by late 2026. Hence, its effects remain to be seen, alongside national attempts to regulate the phenomenon.

5 New Perspectives: Labor Market Dynamism and Labor Market Institutions

I now provide a fresher perspective on the link between labor market institutions and macroeconomic performance by focusing on labor market dynamism, above and beyond the conventional original focus on the unemployment rate and its inflows and outflows. This perspective reflects recent frontiers in macro-labor research that have emphasized the important role of worker flows between employers without intervening unemployment as key engines of labor market adjustment, career progression, wage growth, and aggregate productivity gains. This "new view" shifts attention from the unemployed to the employed: how frequently do workers reallocate to better jobs? Which institutions and policies inhibit or facilitate such dynamism? Hence, Europe's low rate of job-to-job transitions (workers moving directly between employers) might be among the missing pieces explaining the persistent US-Europe productivity gap.

5.1 The Old vs New View of Labor Markets

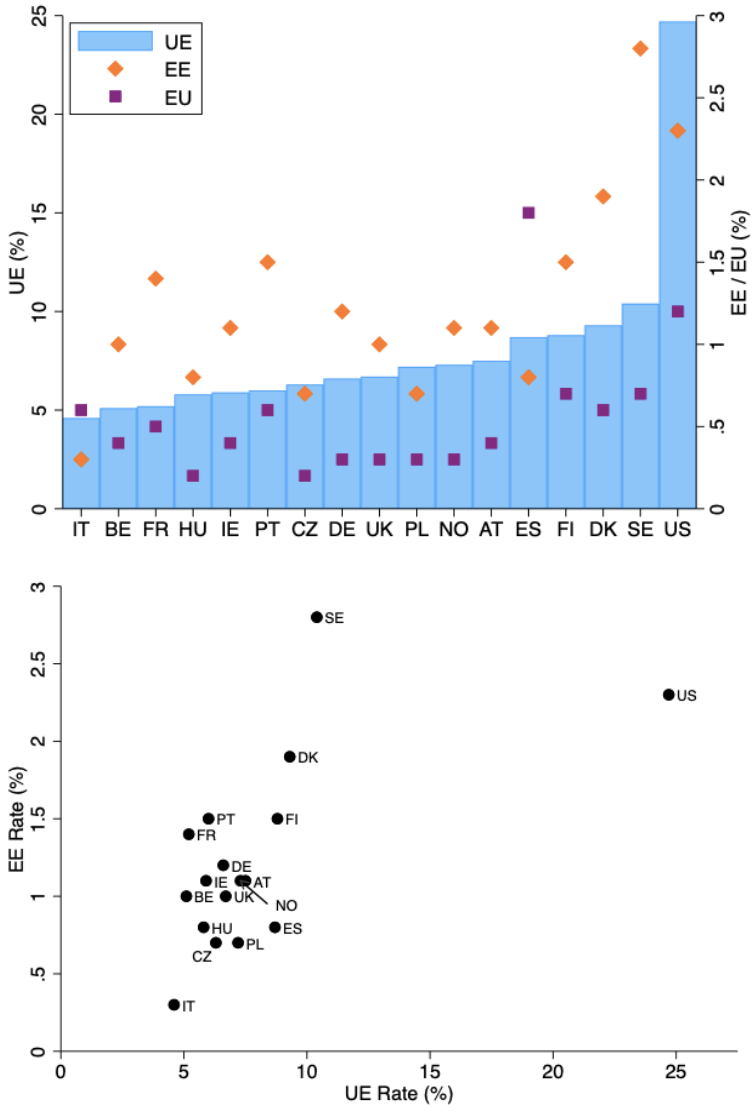
To somewhat oversimplify, the "old view" of macroeconomic thinking on labor market institutions as it relates to Eurosclerosis is that labor markets largely reallocate workers from unemployment and employment. Hence, labor market frictions and policies and institutions aiming to ameliorate them are largely concerned with those flows and the choices by workers and firms as it pertains to those margins. The canonical handbook chapter by Nickell and Layard (1999) and the book by Layard, Nickell, and Jackman (2005, following up on the earlier 1991 edition) provide a canonical and comprehensive overview of these developments and the economic and empirical case for the role of institutions in unemployment and, in turn, that link's implications for macroeconomic performance.

Job-to-job transitions.

While the "old view" largely focused on flows between employment and unemployment, the "new view" has increasingly paid attention to how employed workers switch between employers and, specifically, move up the "job ladder" by career progression externally. Much of labor reallocation occurs through such direct "job-to-job" or "employment-to-employment (EE) flows, and a considerable amount of job search is done by the employed. For instance, in the US, while about 25% of the unemployed move into a job in a given month, the share of employed workers that switch jobs is about 2.5%—as we shall see below. However, with a 4-5% (US)

unemployment rate, there are more than 20-25 times as many employed workers than unemployed job seekers. Hence, the aggregate amount of worker flows in the form of job-to-job transitions is about twice as large as from unemployment to employment transitions. Moreover, based on survey data (albeit from the US), Faberman et al. (2022) document that job search is, in fact, considerably more effective when employed than when unemployed. Below, I reiterate that those transitions are associated with wage—hence productivity—gains.

Chart 22
Worker transition probabilities across countries including job-to-job/employment-to-employment (EE) transitions (monthly)



Notes: The figure shows monthly transition probabilities in Europe and the United States as estimated in Borowycz-Martins (2025) based on EU-LFS and CPS data between 2014 and 2019. The top panel shows the job-finding rate (UE), the job destruction rate (EU), as well as the probability of switching employers (EE). The bottom panel plots the employer transition probability against the job-finding rate.

5.2 Basic Indicators of Labor Market Dynamism and the Transatlantic Gap in Dynamism

Importantly, European countries exhibit, by and large, lower mobility rates than the US not just between unemployment and employment, but also between employers in the form of direct job to job (employment to employment, EE) transitions. Chart 20 summarizes the overall picture by jointly plotting the UE, EU, and EE transition probabilities at the monthly frequency by country. The US again is at the top for this measure (with the exception of Sweden[5]). Moreover, UE and EE transition probabilities are correlated positively, as Chart 20 shows: there are high turnover countries that can be described as having dynamic and fluid labor markets, and those with more "sclerotic" labor markets across all three dimensions. The underlying data source for transition probabilities I draw on is again by Borowczyk-Martins (2025), who applies a harmonized method to extract transition probabilities from worker-level information on spell durations.[6]

Job tenure distributions: "Old jobs" and "young jobs."

Taking together, the low probabilities of losing a job and entering unemployment (EU) or of switching directly to another firm (EE) that characterize European economies have important implications for workers' careers. Specifically, the low degree of churn leads to extremely long job durations and lifetime jobs in many European countries—a characteristic feature of European labor markets that is essentially absent in the US. Chart 21 illustrates this fact. Country by country, it plots key statistics of the tenure distribution of employed workers in a given cross section (2019). It plots the share of "young" jobs (formed within 1 year) and "old" jobs (formed more than 10 years ago), ranking the countries by the former. The US has the largest share of "young" jobs, with 20% of workers at any point in time stating that they started their job less than a year ago. No country in Europe beats this measure of labor market churn. In fact, restricting the analysis to open-ended/regular contracts, the bottom third of countries puts this share below 5%. Only the Nordic countries (and Austria) get close to the US, with 9-11% of workers in such "young" jobs. Even counting fixed-term jobs does not significantly change the ranking of countries. In fact, comparing those two lines makes clear that in most countries and in particular in those with few "young" jobs, a "young" job is probably a FTC job.

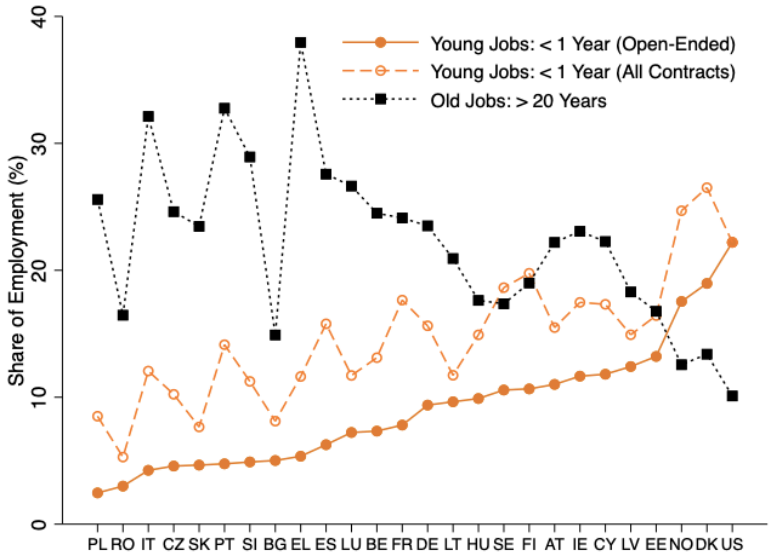
The reverse picture emerges for "old" jobs, with tenure of more than 20 years. Such

[5] An open question is the degree to which these jobs are out of fixed-term ones, which would dramatically overstate the churn in some such countries (similarly to the findings for tenure in Figure 21 below). The data source by Borowczyk-Martins (2025) for EE rates does not differentiate rates by original contract type.

[6] Surprisingly, the measurement of the precise amount of job mobility remains an open question (even in the US, despite its longer research on this topic, see Fujita and Moscarini 2024). Besides issues of measurement in discrete worker panel data, the standard transition measure mixes both voluntary quits and involuntary separations that plausibly would have resulted in unemployment but thanks to either ease of transitioning quickly to another employer (as in the US) or due to advance notice ahead of dismissals (as in Europe where EPL typically mandates multiple months, or fixed term contracts have built-in notice).

a long job is rare in the US, with slightly fewer than 9% of jobs being that “old.” In some European countries such as Greece, Italy, and Portugal, the number appears to be above 30%. Again, the Nordic countries (and Austria) are the countries with more “younger” jobs, but still about twice as high a share of old jobs as in the US.

Chart 23
Distribution of tenure by country: share of old (20 years or more) and young (1 year or less) jobs in employment



Notes: The figure documents heterogeneity in the duration of employer-employee matches across European economies and the United States. Each data point represents the share of workers with a certain level of tenure among the overall workforce. The sample is restricted to workers between ages 15 to 74. I drop observations with missing information on the starting year of an employment spell. In cases where the starting years lie at least two years apart and a job has thus lasted for at least one year, but information on the starting month is missing, I impute the starting month as the average starting month among all jobs lasting longer than one year. The bold orange dots represent the share of jobs that have lasted less than one year and are based on an open-ended contract at the time of the interview. The hollow orange dots present the share of jobs that have lasted less than one year irrespective of contract type. The black squares represent the share of all jobs that have lasted longer than twenty years. Data for European economies comes from the EU-LFS between 2022 and 2023. Calculations use the provided survey weights. Data for the US is reported by the BLS and refers to January 2024.

5.3 Micro Effects of Labor Market Dynamism: Worker Wage Growth

First, in many contexts, voluntary job mobility has proven to be a symptom of functioning labor markets. I review some recent evidence on this at the micro level, largely focusing on the worker side, before moving to the macro level.[7]

At the worker level, voluntary worker mobility is a crucial factor in wage growth—permitting workers to “climb the job ladder” through on the job search, finding better matches. As mentioned above, at least in the US, job search while employed (“on the job search”) appears at least as effective as the search the unemployed

[7] On the firm side, the most important consequences excluded from the discussion in the subsequent sections are turnover costs from hiring costs or sunk human capital investment. Turnover generates natural churn that limits adjustment costs. But replacement hiring may be costly (though perhaps less so in equilibrium, see Mercan and Schoefer 2020).

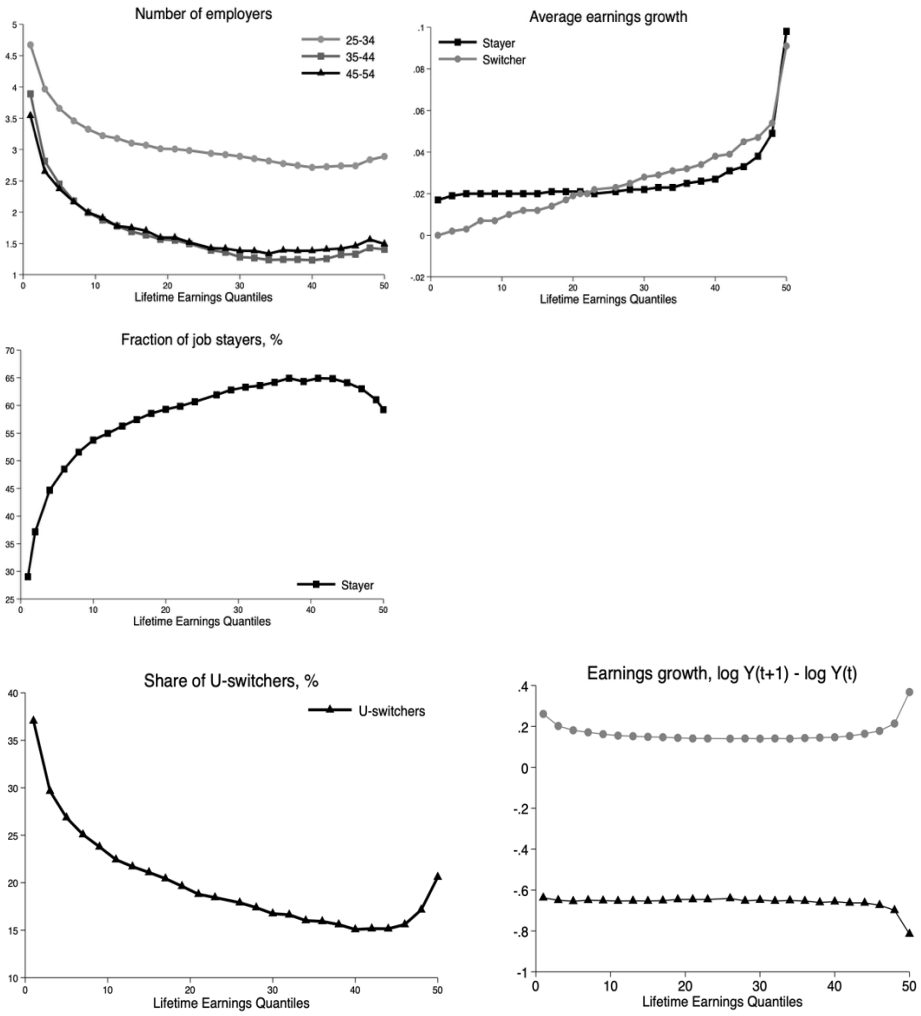
conduct—a fact that likely extends to the European context, in light of the much lower UE job finding rates (especially when compared to EE rates, see Chart 22).

On the worker side, early contributions such as Topel and Ward (1992) have shown that job mobility, especially among young workers, is a key engine for labor market success as measured through wage growth. Young workers pick jobs initially, perhaps build some initial human capital, but importantly continue to build their career internally and externally, switching to better jobs in terms of "fit" with their specific skills and preferences, or move to overall better, higher paying employers. Consistent with the canonical finding in Topel and Ward (1992), Karahan, Ozkan and Song (2022) use long administrative panel data on workers' careers to shed comprehensive light on "good" and "bad" dynamism and mobility. Chart 24, reproduced from their paper, ranks US workers by lifetime labor earnings. No matter the point in the lifetime earnings distribution, direct job mobility in the form of EE transitions entails positive earnings gain of about 20%; by contrast, when workers switch employers while undergoing unemployment, they experience large earnings losses considerably (including the lost income due to unemployment as such). Overall, workers at the top of the lifetime earnings distribution actually have more stable jobs and will have transitioned through fewer employers—but predominantly engage in voluntary EE transitions up the job ladder when they do switch. Hence, such good, EE-based dynamism rather than bad dynamism through unemployment appears as a key driver of workers' career success in terms of labor income. With wage growth typically reflecting productivity growth and better labor resource allocation towards more productive firms, these micro studies already foreshadow the aggregate productivity gains from labor market dynamism, macro implications the paper picks up in the next section.

There is growing attention to this EE margin in labor market research on European economies, of course. In an important analysis across countries, Engbom (2022) confirms that job mobility appears to act as an engine of life cycle wage growth also in European settings. Chart 25 reproduces his key result, showing that country-level job transition rates (annually) are clearly associated with stronger wage growth (the paper includes a fuller set of countries in addition).[8]

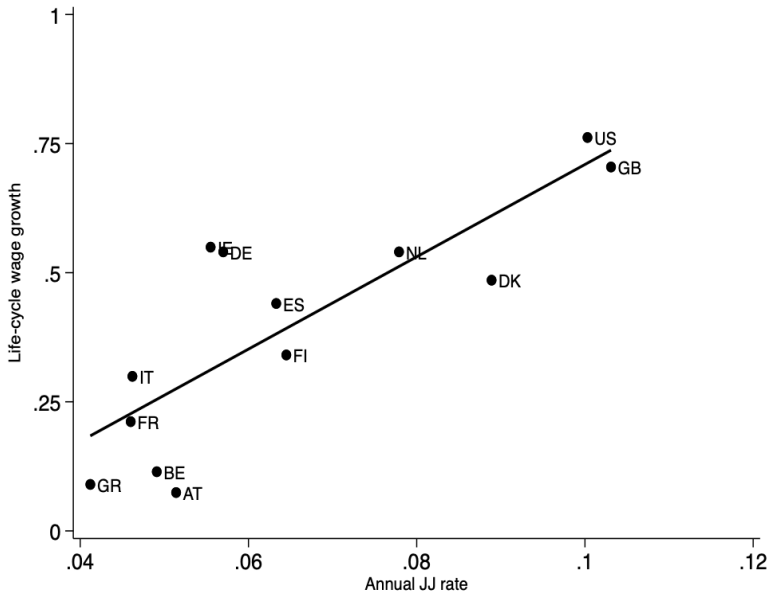
[8] Engbom (2022) argues that an important factor in this relationship is also additional accumulation of skills in addition to the aforementioned wage gains upon switching.

Chart 24
Worker-level job mobility and worker outcomes in the United States (Karahan, Ozkan and Song, 2022)



Notes: The figure reproduces Figures 2 (top panels) and 3 (bottom panels) in Karahan, Ozkan and Song, (2022). The panels sort individuals by lifetime earnings quantities in the US. The top panels plot the numbers of employers an individual has on average, separately by age range, the average earnings growth between two years if switching vs. not switching employers, and the fraction of people who stay in a given year with the same employer. The bottom panels zoom into switchers and plot the share of switchers that include unemployment, and the earnings growth among switchers for transitions involving unemployment vs. a job-to-job (EE) transition without intervening unemployment.

Chart 25
The relationship between life cycle wage growth and labor market fluidity: Engbom (2022)

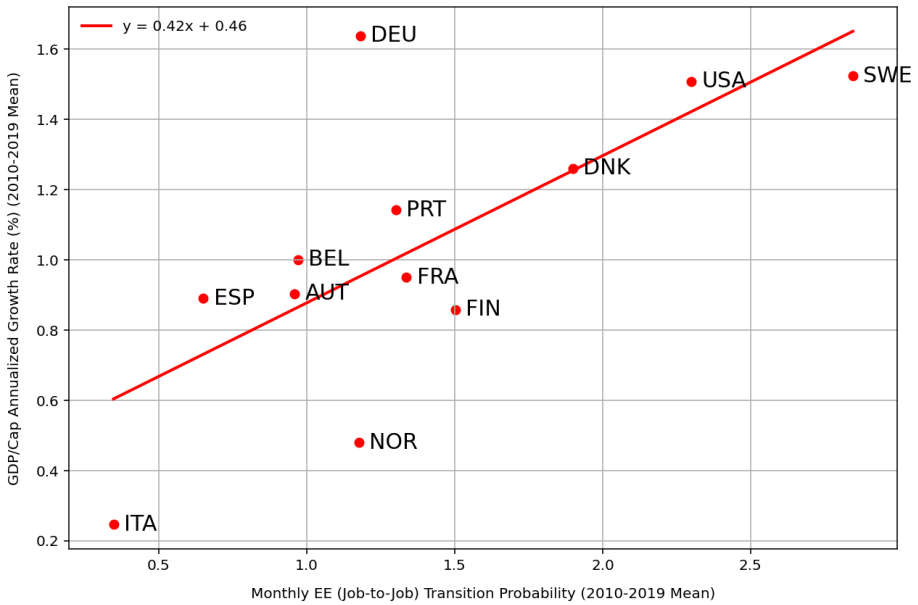


Notes: The figure reproduces Figure 1(A) in Engbom (2022). It zooms into male employees aged 25-54 in a variety of OECD countries for which Engbom (2022) draws on panel data to construct job to job (EE) transition probabilities and lifecycle wage growth information. The definition of a "JJ" transition is whether in the past 12 months the current job spell started but the individual was employed for all 12 months. The author constructs lifecycle wage growth from a regression with worker fixed effects and age controls and year fixed effects.

5.4 Macro Effects of Labor Market Dynamism: Reallocation and Creative Destruction

The macroeconomic patterns appear in line with the microeconomic relationship of labor market dynamism with wage and productivity growth. Broadly, countries that have higher job mobility also have higher growth rates. Chart 26 shows this positive correlation, plotting longer-run (2010-2019) GDP per capita growth rates against the EE transition probability introduced earlier for the countries overlapping in both datasets (except for Ireland, dropped due to the unique GDP growth sources). While correlational and surely confounded by a variety of omitted institutional and macroeconomic variables, Chart 26 can be viewed as the aggregate version of the worker-level microeconomic scatterplot in Chart 25 above. Below, I discuss further channels that may link labor market dynamism with macroeconomic performance as well as the existing attempts to empirically establish those links. The evidence remains limited—so that the macroeconomic consequences of labor market dynamism deserve further theoretical and empirical study.

Chart 26
The correlation of job-to-job transition rates and GDP p.c. growth



Notes: GDP per capita growth rates are computed using data from Bergeaud et. al. (2024), where GDP per capita values are in USD at 2010 PPP. Monthly EE transition probabilities are taken from Borowczyk-Martins (2025) based on EU-LFS and CPS data. Mean transition probabilities are computed over the period from 2010 to 2019, except for France and Norway, where turnover data are only available from Q1 2014 and Q4 2011, respectively.

Potential channels.

An early and important reference studying and reviewing macro effects of labor market dynamism is Davis and Haltiwanger (2014), some of which I recap and complement next.

An important first aggregate effect reiterates workers' increased ability to boost their wages and human capital by moving to productive firms and jobs—an aggregate version of the micro effects just discussed.

Another key effect of dynamism is the facilitation of reallocation and "creative destruction," from shrinking to growing firms and industries. Such reallocation encompasses both garden variety idiosyncratic adjustments individual firms implement to shifting product demand or their own business conditions, but also to more aggregate shocks all the way to structural transformation. An early treatment of this argument is in Hopenhayn and Rogerson (1993), who trace and quantify equilibrium effects of a basic notion of regulatory labor market distortions (adjustment costs) in the presence of firm-level productivity heterogeneity.

Importantly, the benefits from labor market fluidity facilitating worker reallocation accrue to at least three parties. First, direct job to job transitions permit workers to avoid unemployment, which has large and persistent earnings losses.

Second, the hiring firm can draw on a larger labor supply pool when workers are able or willing to switch directly into growing firms. Recall that in high-fluidity countries such as the US, more than half of the positions are filled through direct EE transitions, and in European economies, too, this margin of hiring is important (as in Europe, UE transition probabilities are low). This mechanism will likely gain in importance in times of tight labor markets, labor shortages, and low unemployment.

Third, the benefits from fluid labor markets accrue not just to the destination firm seeking to expand, but extend even to the origin firm. Specifically, a firm seeking to shrink can do so through so without having to resort to dismissals but instead benefit from the "natural attrition" labor market fluidity brings about (e.g., Davis, Steven, Faberman and Haltiwanger 2012). (An offsetting effect may stem from potentially higher turnover costs.) These benefits from natural churn are plausibly particularly valuable in regulatory environments with strong EPL and high dismissal costs such as in many European economies. Hence, labor market fluidity lowers labor costs ex post but also in anticipation, and therefore may facilitate hiring, too.

Fourth and relatedly, the focus on labor market fluidity also sheds new light on the labor market effects of innovation. The canonical view, born out of the "old view," is that creative destruction brings about unemployment due to job destruction that accompanies it (Aghion and Howitt 1994). However, in a richer model with job to job transitions, this effect can be almost entirely avoided, and in fact job mobility can aid growth and creative destruction (Miyamoto and Takahashi 2011, Michau 2013). Moreover, Engbom (2023) develops a model with innovation/entrepreneurship and job mobility and provides some evidence for links with macroeconomic growth through reduced dynamism.

All those channels suggest that an important consequence of labor market fluidity at the EE margin is that restructuring is faster and less costly. I will pick up this topic again in Section 6, with particular attention to which types of industries, innovation activities, and technology adoption may particularly benefit from such dynamism, hence circling back to the themes discussed in the introduction.

Empirical evidence: demographic shifts (aging).

Establishing causal links from labor market dynamism to macroeconomic performance is challenging exactly because the former is an equilibrium outcome of a variety of factors: worker and firm choices, labor market tightness, institutional obstacles and opportunities, and compositional factors.

The best evidence to date on the macroeconomic effects of labor market dynamism stem from plausibly exogenous shifts in demographics—where most of the evidence still comes from the US (e.g., Shimer 2011, Davis and Haltiwanger 2014, 2023, Maestas, Mullen and Powell 2023, Karahan, Pugsley and Sahin 2024), with the important exception of Engbom (2019), who studies the Swedish labor market. In that literature, labor market fluidity as shifted by population age composition appears to encourage innovation, entrepreneurship, and firm entry and competition more generally, with downstream effects on productivity and worker outcomes, all the way

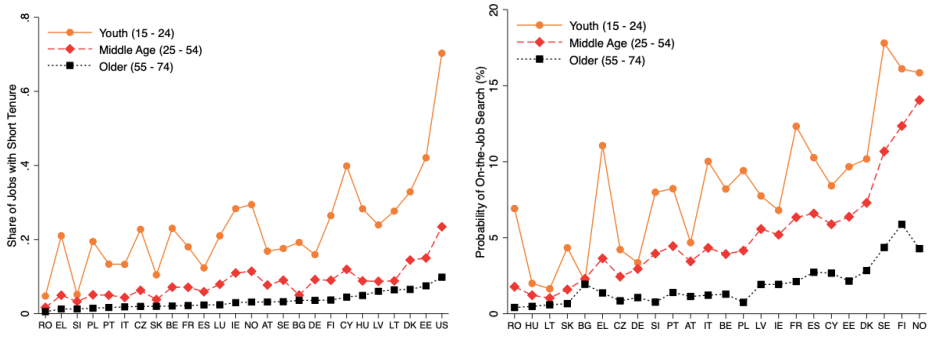
to GDP per capita. Several of these effects are likely to carry over Europe as well given the demographic shifts its societies are undergoing.

The logic of this empirical argument is presented in Charts 27 and 28 below. Chart 27 plots proxies for labor market dynamism by country and age group, here measured by the share of workers in low-tenure jobs and engaged in on the job search. The figure makes clear that job mobility is concentrated among young workers. Chart 28 then replicates the core result in Maestas, Mullen and Powell (2023), who link population aging with macroeconomic performance as measured by GDP growth rates at the US state levels, exploiting cross-state variation in predicted demographic shifts by extrapolating original age structures as instrumental variables. They find that aging states see lower GDP per capita growth. Two thirds of this effect is attributed to labor productivity rather than the quantity of hours worked/employment. This graph can hence be read as an "instrumental variables" (reduced form) version of the macro relationship shown in Chart 26 above. (Unlike the other aforementioned papers, that paper does not primarily focus on labor market dynamism, but it still serves as the empirically compelling link in the form of a simple scatter plot result.) Ongoing work by Arvai, Bunel and Stumpner (2025) will present more granular and firm-level evidence for this effect.

As important caveats, the available evidence, by relying on broad demographic shifts to obtain variation in worker flows, need not carry over to effects of institution-induced dynamism variation. It also does not definitively isolate the causal link from labor market dynamism to macroeconomic outcomes only, because population aging plausibly affects macroeconomic outcomes also through other channels (a version of the "exclusion restriction" in instrumental variable methods). Overall, more research is needed to pin down the effect of labor market dynamism on macroeconomic outcomes, specifically in European contexts, and specifically the role of institutions therein.

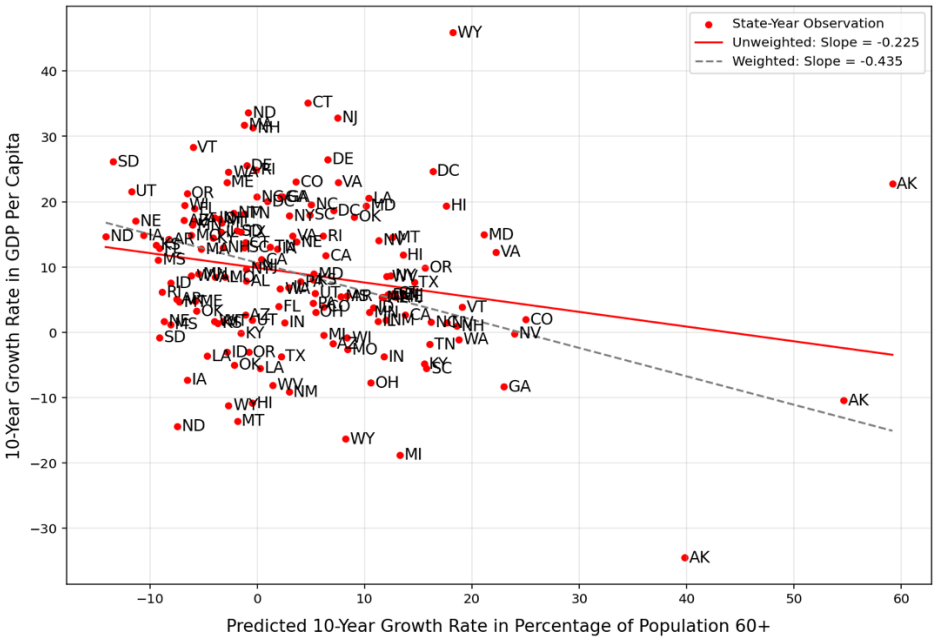
Next, I will discuss the potential role of policies and institutions in affecting labor market dynamism—and along the way aim to cite the (relatively small) set of empirical studies that have shed (micro-)empirical light on the consequences. Such micro studies may complement the lessons from more macroeconomic research in permitting the identification of causal effects (but its micro lens will necessarily miss the full macro picture).

Chart 27
Labor market dynamism by age group and country: short-tenure jobs (at most a year, Europe and US) and active on the job search (Europe only)



Notes: The figure documents heterogeneity in the duration of employer-employee matches across European economies and the United States by worker age. The left panel reports the share of all current jobs that have lasted for less than a year and are based on open-ended contracts. In the Appendix I present results pooling all contract types. I report the shares separately by worker age at the time of interview. Data for European economies comes from the EU-LFS. Data for the US is reported by the BLS and refers to January 2024. The right panel reports the share (in percent) of workers employed in open-ended contracts that report actively searching for another employer in the past four weeks, by worker age at the time of interview. The Appendix contains results relaxing the restriction to open-ended contracts. Data is missing for the United States. I omit Luxembourg from the analysis due to the small size of its EU-LFS sample. Calculations use the provided survey weights.

Chart 28
Population aging and population growth, with a plausible channel of labor market dynamism (Maestas, Mullen and Powell 2023)



Notes: This figure replicates Figure 2 in Maestas et. al. (2023) based on their state age shares, predicted growth rates, and GDP per capita data, for US states. Each point represents a state-year combination between 1979 and 2009. Predicted growth rates in age 60+ shares are computed using a 10-year lag instrument. Grey lines represent population-weighted regressions.

5.5 How Do Labor Market Institutions and Policies Affect Labor Market Fluidity (and Thereby Macroeconomic Performance)?

The new and emerging view of labor market dynamism as a driver of micro and macro productivity growth raises the question of what factors inhibit or boost labor market dynamism (with demographic developments cited above beyond the direct scope of policy). Specifically, it invites a broad reassessment of the role of labor market institutions, all the way towards a brainstorming about "active labor market policies for the employed." Examples are portable benefits that reduce lock-in, or tweaks to EPL such as tenure-neutral termination policies that do not penalize movers. These speculative ideas might align with the goal of boosting dynamism without abandoning worker protection.

In this brief section, I attempt to sketch such an assessment along a handful of case studies. Wherever possible, I cite existing research backing up the reflections—but the theme and bottom line is the prevalence of gaps, and that more and dedicated research on those matters is needed. I also sidestep the role of culture or preferences as factors in dynamism, in the long-standing tradition of economists' poor understanding of these important determinants of economic behavior.

Seniority-driven employment protection.

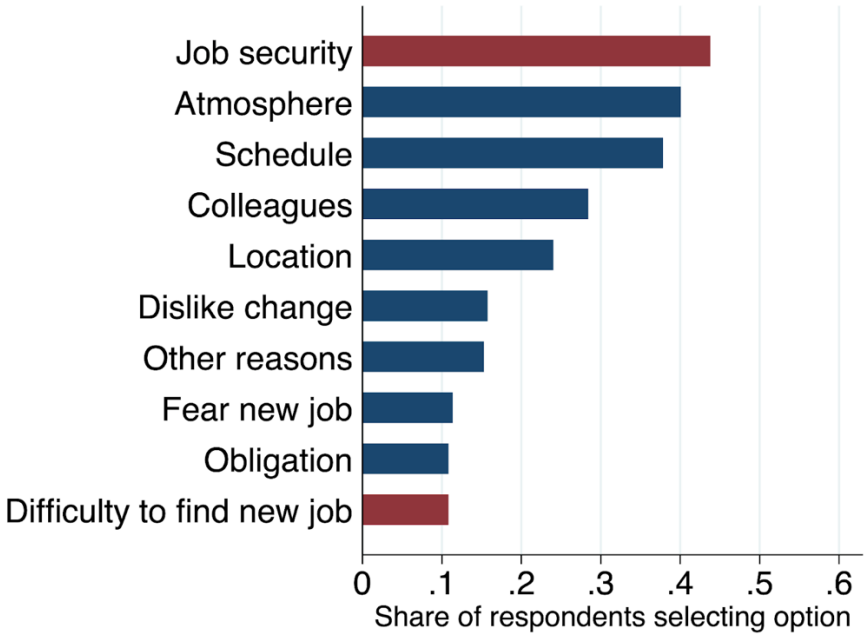
Many countries feature seniority driven employment protection rules. Formally, "last in, first out" rules mandate that dismissals have to follow the pecking order established by job tenure (e.g., in Sweden, see Cederlöf 2004). As a result, longer-tenured workers are particularly shielded from dismissal risk, a protection they lose if moving to another employer. Even in settings such as Germany in which job tenure is not enshrined explicitly as a factor in dismissals by law, the negotiations with works councils that occur during economic/business-related dismissals typically put strong weight on job tenure in shielding specific workers from dismissals. Moreover, in all countries with strong EPL, there exist explicit probationary period carve-outs of multiple months during which the employer can dismiss the worker without cause, and after which EPL binds, including just cause requirements. Similarly, advance notice mandates (which often apply to workers, too) are often step functions of job tenure.

Overall, these tenure-dependent protections that are lost after an EE transition plausibly lead to "lock-in" and status quo bias—akin to the idea of "lock-in" into fixed-term mortgages during interest rate increases that curbs mobility (Liebersohn and Rothstein 2025) or "job lock" from employer-sponsored health insurance in the US (Gruber and Madrian 1994). Hence, while the probationary period as well as tenure-based EPL rules are in part aimed at boosting experimentation by employers to hire applicants, these features also plausibly inhibit job mobility by tying employees to their current job.

Consistent with this perspective, European workers appear very hesitant to switch employers even if offered wage premia. Chart 29 reports on a unique custom survey

question in the German Socioeconomic Panel's 2019 wave speaks to this question (implemented by Jäger, Roth, Roussille and Schoefer 2024, and used in Clymo, Denderski, Mercan and Schoefer 2024, from which paper I copy the figure below). Namely, after confirming that respondents believe that very comparable jobs exist in their respective local labor market that however pay higher wages, the survey asks why they would not switch to such a job. Chart 29, copied from Clymo, Denderski, Mercan and Schoefer 2024, shows that most selected reason is that workers perceive their current job to be much safer than the otherwise comparable but higher-paying potential new job. Future research will show which role employment protection rules play in this resistance to job switching; Clymo, Denderski, Mercan and Schoefer (2024) explore the risk of higher unemployment/dismissal risk in the new job as a factor to stay put.

Chart 29
Reasons to not move to higher-paying alternative employer in Germany.



Notes: The figure is copied from Clymo, Denderski, Mercan and Schoefer (2024). It reports on the distribution of reasons selected for not switching employers in the 2019 German Socioeconomic Panel's custom module (for details see Jäger, Roth, Roussille and Schoefer 2024). The English translation of the original German question is: "You told us that you think that X% of employees in Germany that are employed at a different employer, but work in the same occupation as you receive a higher wage. What are the main reasons for why you are currently (still) employed at your current employer even though other employers may offer you a higher wage?"

Lock-in through occupational pensions, wage scales, or and severance pay.

Similarly, monetary incentives explicitly discourage job mobility. An important example are mandated severance payments due at dismissal (or retirement), which are often step functions of job tenure, again locking in the employee increasingly so with tenure. An even more extreme example is given by supplementary occupational/company defined benefit pensions, which often require a vesting period

and hence lock in employees at their current employer, in contrast to more portable defined contribution (e.g., 401(k)) plans in the US. Lastly, seniority-based wage scales, although less research exists on whether those are more or less prevalent in European wage setting practice or collective contracts. These arrangements generate an obvious obstacle to labor market fluidity.

A natural question concerns which alternatives may exist to attenuate such barriers to mobility. One fascinating reform was implemented in 1994 in Switzerland, which mandated the portability of occupational/company pensions across employers, with the explicit goal to facilitate job mobility. This reform and its impacts are studied in Baselgia, Jäger, Schoefer, and Siegenthaler (2024). A more recent reform occurred in Austria in 2003, which reformed its severance pay system, which is a mandated payment due upon dismissal or retirement and a step function of tenure—thereby again locking in employees in their current company. The 2003 reform has been studied in Kettemann, Kramarz and Zweimüller (2017), who document positive effects on affected worker cohorts' job mobility and wage outcomes that are consistent with EPL/severance pay mandates plausibly in some contexts curbing labor market dynamism to the detriment of workers. The finding also supports the idea that reforms can fine-tune institutions with little tradeoff between insurance value and mobility gains.

Wage compression and wage flexibility.

In models of job switching, a key motivation for workers to switch to more productive employers and jobs is to act on the price signal given by the wage. More productive firms may either pay wages across the board (as in wage posting models) or may engage in active "bidding" to poach already employed workers from their current job, with both employers engaging in "auctions" that ensure that the worker ends up in the most productive firm and job. However, particularly in the presence of switching costs, wage compression and wage rigidities as enshrined in collective bargaining may limit exactly such wage-mediated reallocation between employers. But the misallocative net effects are ambiguous: on the one hand, collective bargaining is at least correlationally associated with more equal wages at the macro level (see, e.g., Jäger, Naidu and Schoefer 2025), but homogenous input prices would push the economy towards allocative efficiency (Hsieh and Klenow 2009).

Another factor working against price signals is that there is growing evidence for limited pay information and pay transparency across employers as perceived by employed workers. Jäger, Roth, Roussille and Schoefer (2024) implement a custom survey in the German Socioeconomic Panel matched to respondents' administrative labor market biographies and test the idea that workers have accurate beliefs about their outside option with other employers. They find evidence for anchoring, whereby workers even in objectively low-paying firms underestimate the wages paid with other employers—including some first evidence in a survey information experiment that suggests that correcting beliefs about outside options might shift planned search behavior. It will be interesting to see whether countries with more labor market fluidity have workers that are better informed about labor market opportunities and wage

distributions (for ongoing follow-up work in the US, see Guo 2025). These questions also raise the possibility that transparency policies across (rather than within) employers might boost labor market fluidity and improve allocation of workers through the EE margin.

Unemployment insurance.

In many settings, the unemployment insurance system is the key policy lever mediating worker flows. By that account, workers become unemployed due to redundancies and unemployment insurance (UI) benefits help workers smooth consumption (provide insurance) during this large income shock. The chief concerns and tradeoffs in the design of UI are typically the fact that generous UI also encourages workers to stay unemployed for longer. Moreover, generous UI may also entail higher inflows into unemployment. However, as mentioned above, workers also incorporate job security into their job mobility decisions. Moreover, in some settings, the prospect of limited unemployment insurance access if quitting a job to another job and losing that job may further curb job mobility (as would the limited room to quit out of the next job if unsuitable as this would render the worker ineligible for UI). Clymo et al. (2025) show that unemployment insurance can be designed in a way to also stimulate job mobility, as it insures workers against the heightened risk of job loss following EE switches—permitting workers to climb the job ladder without the inefficiently high caution they would otherwise exhibit, with important macroeconomic performance effects. These effects are likely even more pronounced in environments with strong EPL and (as the authors show) in times or settings (as in European economies) when job finding out of unemployment (UE rates) are low.

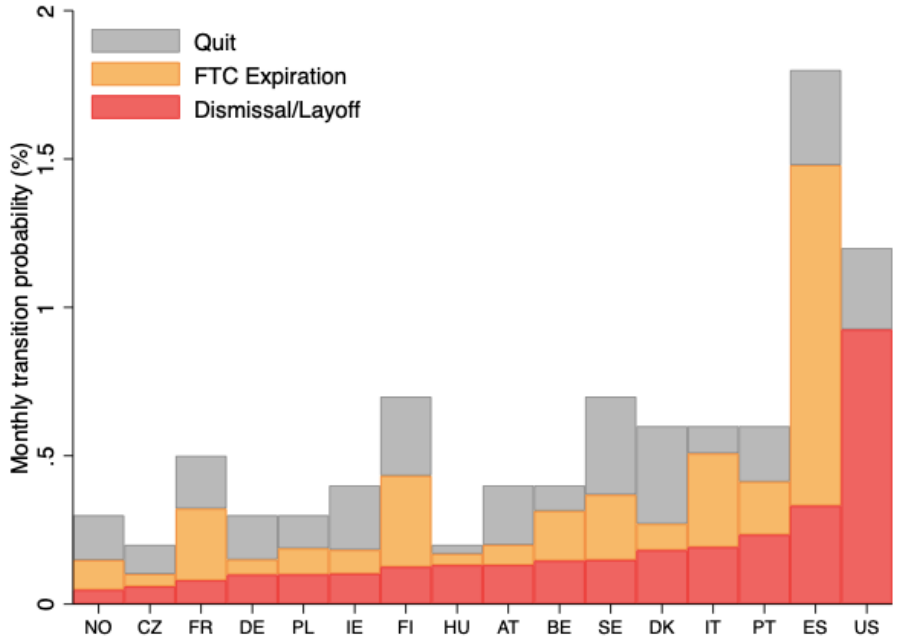
Noncompete clauses.

A mechanical institutional factor in job mobility are non-compete clauses—private contracts in the shadow of the labor law and regulation. While designed to protect trade and company secrets or permit employers to recoup training investments, an important consequence of such clauses is their mechanical limitation on job mobility. Evidence on their scope and effects remain limited, particularly in Europe. Young (2024) provides an empirical assessment of the effects of noncompete clauses among lower earnings in Austria—finding effects on job mobility without clear earnings growth effects, hence providing a mixed picture for the key predictions. Boeri, Garnero, and Luisetto (2024) offer an empirical assessment in the case of Italy.

6 Effects of Labor Market Institutions on Business Dynamism, Innovation, and Restructuring

I close my reappraisal of labor market institutions with a complementary perspective on a broader notion of business dynamism and operational flexibility. I organize the discussion around candidate effects with downstream consequences for outcomes that have occupied the transatlantic macroeconomic performance gap discussed in the introduction that motivated the paper, such as disruptive innovations, the tech sector, and ICT adoption.

Chart 30
Dismissals and layoffs as a share of employment in US vs. European countries



Notes: The figure documents the level of composition of inflows from employment into unemployment across European economies and the United States. Estimates for inflow rates between 2014 and 2019 are taken from Borowycz-Martins (2025). The conditional probability that a transition into unemployment constitutes a quit, layoff or a fixed-term contract expiration is estimated using EU-LFS for European economies, and ASEC for the United States, between 2022 and 2023. Information on FTC expiration is missing in ASEC. The sample is restricted to individuals between the ages 25 to 54. Calculations used the provided survey weights. When working with the ASEC, in order to rule out transitions from non-employment to unemployment, I drop all unemployed individuals who are re-entrants or entrants to the labor force. Exit from the labor force might be driven by both layoffs as well as quits. However, it is plausible that such exits are predominantly driven by voluntary quits, leading us to overestimate the share of separations attributable to layoffs. An upper bound for the quit share can be constructed by counting all (re-)entrants as quits. Under this assumption, the estimated quit share among employment-unemployment transitions in the United States increases from 21.8% to 40.4%, or conversely, the estimated share of layoffs declines from 78.2% to 59.6%. The implied unconditional layoff rate in the United States is still considerably higher than that of the closest European economy.

6.1 Business Decisions in the Shadow of European Labor Market Institutions

While existing research on European labor market institutions has largely focused on how they shape worker outcomes and firms' personnel decisions, many of these institutions have additional direct and crucial effects on firms' operations, modes of production, technology adoption, or innovation choices—in particular, restructuring.

First and perhaps most importantly, employment protection rules and codetermination rights (such as works councils) shape the separation margin and hence mechanical make restructuring difficult and costly in Europe. Chart 30 highlights this fact. Simply put, dismissals and layoffs are exceptional events in Europe, while they are frequent in the US. The bar chart plots a proxy for the share of 100 employed workers in a given country that experience a separation into unemployment through a dismissal or layoff in a given month. That number is high in the US, with about 1% of the workforce dismissed in a given month. By contrast, in many European settings, such as Germany, the share appears tiny—below 0.1%.[9] Carry and Schoefer (2024) show that introducing new vehicles that facilitate dismissals such as the separation by mutual agreement (introduced in France in 2008) have seen little take-up to liberalize the dismissal margin.

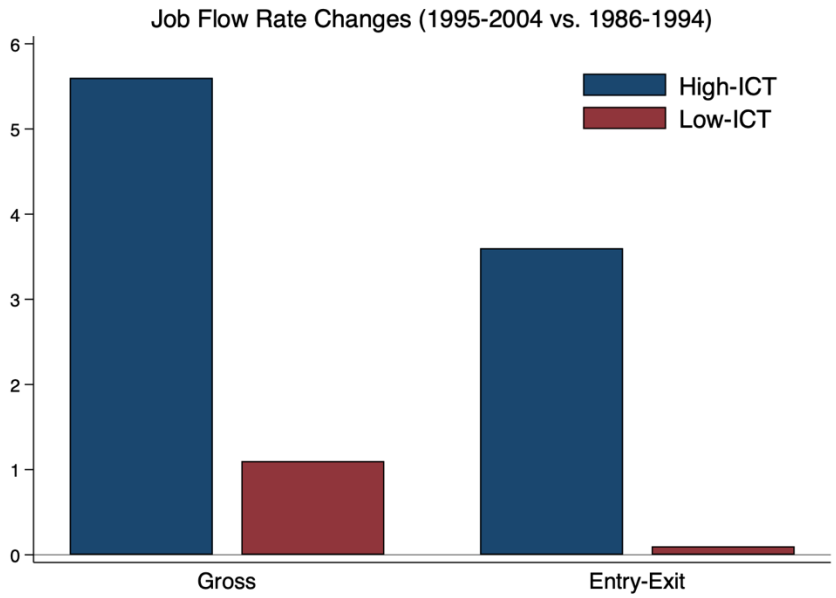
Second, even at the hiring margin, works councils in many countries have a say in whom to hire, and, as in the perhaps exceptional case of Germany, can also be involved in reviewing hiring plans ex ante and on the specific hire (including potentially a review of whether an internal candidate may obtain priority)—delaying and potentially constraining this margin in particular if the hire may disadvantage incumbent employees. With the exception of important ongoing work in the German context by Bossler, Gürtzgen and Kovalenko (2025), there is little evidence of codetermination on such effects on hiring practices and delay. But overall, on both the separation and hiring margins, labor market institutions constrain or at least shape the restructuring firms may seek to engage in, with more research being needed.

Third, and perhaps least appreciated, employment protection rules often also constrain the firm in adapting the responsibilities, requirements, and hours (and job title and hence pay levels) for incumbent workers in continuing jobs. For instance, in the case of Sweden, where workers lose employment protection above a certain age threshold (but unrelated to retirement incentives), both public and private sector employers push workers into part-time work—a choice they evidently were unable to negotiate beforehand (Saez, Schoefer and Seim 2024). A similar phenomenon is observed in Japan, where older workers that decide to work see dramatic restructuring of job title, pay, and hours. Effects of labor market institutions on this "intensive margin" of personnel policy among incumbent workers' job structures is

[9] While not isolating dismissals specifically but focusing on worker flows, Bassanini and Garnero (2013) show that EPL strength and dismissal costs account for low turnover and EU flows. Internationally comparable dismissal data also from employers would speak most definitively to this comparison but is not readily available to the author's knowledge. Filip, Momferatou and Parraga Rodriguez (2025) present survey evidence that at least in 2023, firms mainly point to skill shortages and energy costs as long-term challenges, with business and labor regulations ranking in the middle.

least explored in the academic literature (perhaps with the exception of working hours regulations, e.g., Schoefer 2010, Carry 2024).

Chart 31
ICT intensity across industries and labor market turnover change between the mid-1980s and mid-2000s.



Notes: This figure visualizes the results in Table 6 in Bartelsman, Gautier, and de Wind (2016).

6.2 Application: Innovation, the Tech Sector, and ICT Adoption

Basic cost benefit analysis makes clear that policies that increase labor adjustment costs imply they discourage in particular risky or volatile activities by lowering expected payoffs. EPL, by making it costly or difficult to shed workers following poor business conditions, may therefore tilt the balance toward safe rather than risky production models and sectors. Codetermination institutions might play a similar role. Bartelsman, Gautier, and de Wind (2016) formalize this idea and show that indeed, risky ICT sectors have lower employment shares in countries with strict EPL.

They also establish the important fact that ICT-intensive industries exhibit larger worker flows and hence restructuring pressure. In Chart 31, we represent their Table 6, which shows the increases in churn measures increases during the ICT adoption wave between the mid-1980s and mid-2000s, with high-ICT-intensive industries exhibiting a surge therein with hardly any change in the low-ICT industries. Hence, ICT adoption plausibly requires restructuring, a theme this section picks up again towards the end.

Several papers have shown the macroeconomic implications of this cost-benefit logic. Saint-Paul (2002) emphasizes international specialization. His theoretical model shows that high-EPL countries will optimally specialize in incremental innovation that improves existing goods rather than disruptive innovation—providing a rationale for the transatlantic specialization patterns that is tied to EPL. Relatedly,

Delbecque, Méjean and Patureau (2014) and Roy (2023) argue empirically that EPL and similar institutional rigidities distort FDI and firms' location choices across OECD countries and trade flows, respectively. Alesina, Battisti and Zeira (2018) present a model of how EPL tilts technological innovation to low-skilled labor and trace these effects empirically for the resulting productivity implications.

Perhaps even more concerning from a growth perspective, Samaniego (2006) makes the case that firms operating in high EPL countries will optimally specialize in industries and activities expected to exhibit sluggish growth and avoid areas experiencing disruptive fast growth, to avoid the risk of falling behind and facing adjustment costs. He argues that this sorting pattern can account for the more sluggish diffusion of ICT in Europe compared to the US. More broadly, the logic applies to disruptive innovation and markets with first-mover advantages (e.g., from network effects) or required "pivoting"—themes associated with some parts of the tech sector. Chart 32 below illustrates the main empirical set of relationships documented in Samaniego (2006) that are consistent with that view, showing that ICT adoption and investments appear strongly negatively related to EPL strength across countries.

A similar logic should apply to capital supply and financing of projects. Indeed, Bozkaya and Kerr (2014) show evidence that across European countries, venture capital investment appears constrained by employment protection—arguably due to the costs stemming from higher expected adjustments costs in the particularly risky projects VC investments target. Chart 33 below reproduces the simplest and most illustrative result of that paper in the form of a simple scatter plot.

In the same spirit, Coatanlem and Coste (2024) provide a rich collage of evidence for European EPL and labor market rigidities entails prohibitively high "cost of failure" for innovative ventures. The authors argue that restructuring costs are dramatically higher in Europe compared to the US due to severance pay, deals struck with works councils, buyouts, or lengthy negotiations, or advance notice requirements. They furthermore argue that this mechanism accounts for lower expected returns on European tech companies and make the case that VCs notice and act on this return disadvantage by restricting funds—and that these costs matter not just for small but in expectation also for large ventures once projects were to grow. Coste (2024) is a book-length account of this idea, including intriguing case studies. These two intriguing collections also engage with alternative mechanisms such as capital market integration and deepening.

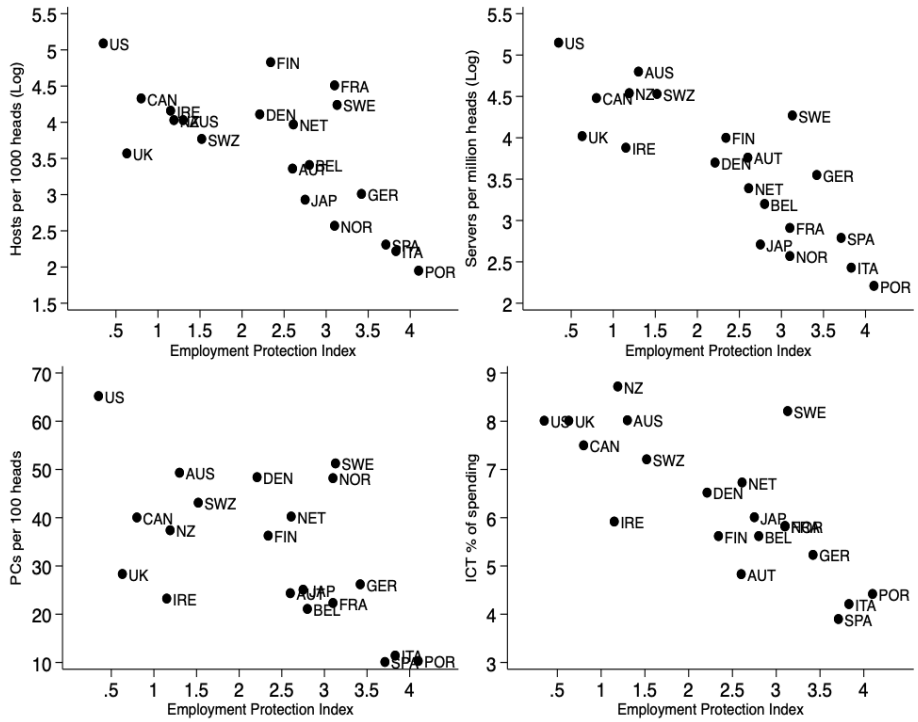
A particularly open question is causal and compelling micro-empirical evidence on this link between labor market institutions and the outcomes discussed above. Aghion, Bergeaud and van Reenen (2023) are a rare example of quasi-experimental evidence of labor market rigidities on innovation outcomes, exploiting a French firm size discontinuity related to codetermination and EPL. They find that firms appear to innovate less (and if they do, "swing for the fences" in the form of non-incremental innovations). A limitation of this study is that it obtains identification from size-thresholds and it remains to be seen how EPL and other rigidities that characterize European labor market institutions affect corporate decision making, (R&D and

capital) investments, specialization, and the adoption and use of new and quickly evolving technologies such as ICT.

Finally, more research is also needed on how labor market institutions shape how innovations are adopted and diffuse throughout the economy. Accounts of the effects of ICT and firm-level adoption processes (e.g., the early book-length treatment by Pilat/OECD 2003) highlight the organizational changes and challenges that plausibly will be affected by labor market institutions throughout. There is some evidence from automation (robots) that in EPL- and codetermination-heavy environments (Germany), robots appear to not have the typical displacement effects expected in, e.g., the US (Dauth, Findeisen, Suedekum, and Woessner 2021).

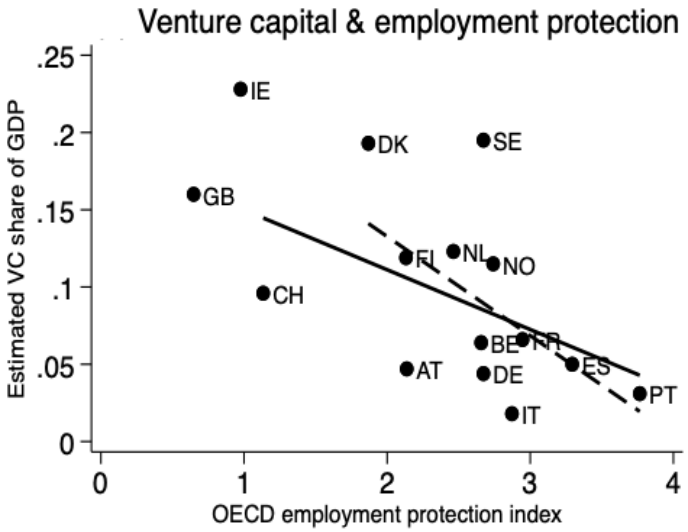
The current radical innovation that will present businesses and workers with disruption, need for reallocation, and change of job structures, is artificial intelligence (AI). Here too, EPL and codetermination may shape how AI transmits into European economies, with worker involvement and the pressures from EPL perhaps leading European employers to focus on labor-complementary rather than -substituting facets of this technology (Acemoglu and Restrepo, 2018, Acemoglu 2023). However, there is currently little reliable empirical evidence on how AI has diffused differently across institutional landscapes and on heterogeneous effects of adoption on workers and firms following institutional differences. Moreover, important development in Europe is also the attempt to issue dedicated regulations pertaining to AI use (e.g., the EU AI Act), which may directly affect the growth of the European AI sector, as well as the use and effects of AI above and beyond the mediating role of labor market institutions.

Chart 32
The correlation between indicators of ICT diffusion and EPL (Samaniego 2006)



Notes: This figure reproduces Figure 1 in Samaniego (2006).

Chart 33
The correlation between VC investment and EPL (Bozkaya and Kerr 2014)



Notes: This figure reproduces Figure 1(c) in Bozkaya and Kerr (2014).

6.3 Policy Levers

An intriguing question is whether labor market institutions may be adjusted to accommodate industries that require larger degrees of operating and labor market flexibility. Of course, such exemptions are not rare: in most systems, labor market regulations often exempt some small firms or young workers from, e.g., EPL (see Boeri and Jimeno 2005). In many countries, codetermination rules apply not to all firms but only to those of certain sizes or corporate forms (e.g., in Germany and Finland, see Jäger, Schoefer and Heining 2021, Harju, Jäger and Schoefer forthcoming). Similarly, public and private sector jobs often feature different contractual and regulatory environments. Even in an employment at will setting as the US, universities extend "tenure" mimicking employment security that is often standard in most European countries for all workers. Conversely, in Sweden, a "tenure track" system for assistant professors is implemented through stipendiary systems to circumvent temporary contracts, in recognition of the need for longer-term probationary periods in this sector followed by "tenure." Similarly, several countries already exempt high-wage or managerial employees from several aspects of EPL.

While fixed term contracts have offered a pathway for firms to limit adjustment costs, fixed term contracts almost exclusively target lower-wage and lower-education workers. If indeed economic activities related to ICT and disruptive innovations, for new and incumbent firms, are depressed by rigid labor market institutions and the urgency of this diagnosis persists, then carve-outs for certain industries or activities make for an intriguing thought experiment. It is interesting to think about contractual mutual agreements at the point of hiring to waive such requirements in certain types of firms or for certain workers. But from the academic side, causally identified micro-empirical research on the quantitative and heterogeneous effects of EPL and codetermination rules on specifically tech and disruptive innovation activities remains limited.

7 Conclusion

Forty years after Eurosclerosis was first diagnosed (Giersch 1985), its symptoms have evolved: rampant unemployment has subsided, but weak dynamism, underperformance in ICT and R&D investments, and sluggish adoption of new technologies have emerged as new concerns (Draghi 2024). This paper's analysis explores the idea that the common thread may still be institutional rigidity—albeit now manifesting through low labor market dynamism rather than joblessness.

The quest for the sources of declining relative European competitiveness necessarily emphasizes costs over benefits of the European model. But it has delivered relatively equitable growth for decades with strong worker rights, worker voice, and social insurance. What appears as beneficial dynamism to employers may represent unwelcome risk to workers, and frictions to employers are engrained rights valued by workers. Europe's institutions also provide workers and indeed citizens with tools to

shape economic structures and coordinate responses to shocks—advantages that the standard economic perspective (such as the one I attempted above) often overlooks and that the American model largely lacks.

Yet these benefits may lose currency as the material gap continues to widen, especially given rising labor market duality. Moreover, the importance of these issues will only grow given tight labor markets (labor supply reductions, an aging population), skill mismatch and recruitment difficulties, structural shifts (green transition, artificial intelligence), and fiscal needs (defense spending, pension systems, and public investment). Hence, understanding how European labor market institutions shape macroeconomic outcomes seems as urgent now as during the unemployment crisis about 40 years ago.

Finally, economists have succeeded most at studying individual policies or incremental shifts in particular slides of institutions, rather than the complex and heterogeneous packages that make up real-world economies. My personal humble view is that we have much to learn from the scholars associated with the “Varieties of Capitalism” literature and welfare state literatures (e.g., Hall and Soskice 2001). Those scholars (mostly sociologists, political scientists and historians) have built rich conceptual and qualitative models and have aimed to understand interactions between individual policies and institutions, including their potential complementarities, and their total effects as packages. As economists make progress in building rich models of the macroeconomy, I hope that the realism of the labor market block will more and more extend to the institutional context, too (whereas currently, most models completely exclude the reality of collective bargaining, codetermination, realistic models of employment protection,...). Part of the progress in this endeavor will likely include the productive interplay of microempirical evidence and macroeconomic assessment, while leveraging the laboratory of institutional and policy variety across European national economies.

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APPENDIX

Figure A.1: The macroeconomic performance gap between Europe and the United States: levels

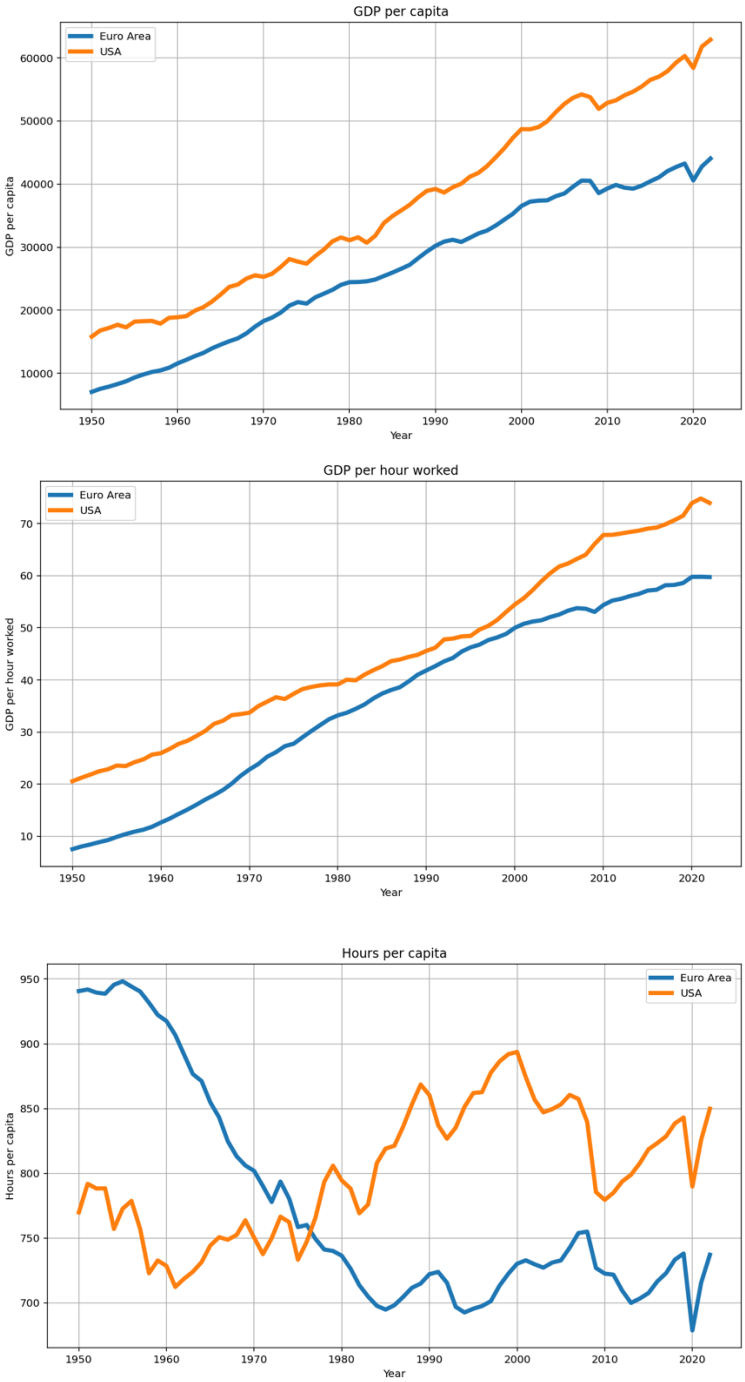


Figure A.2: Unemployment by Country Cluster

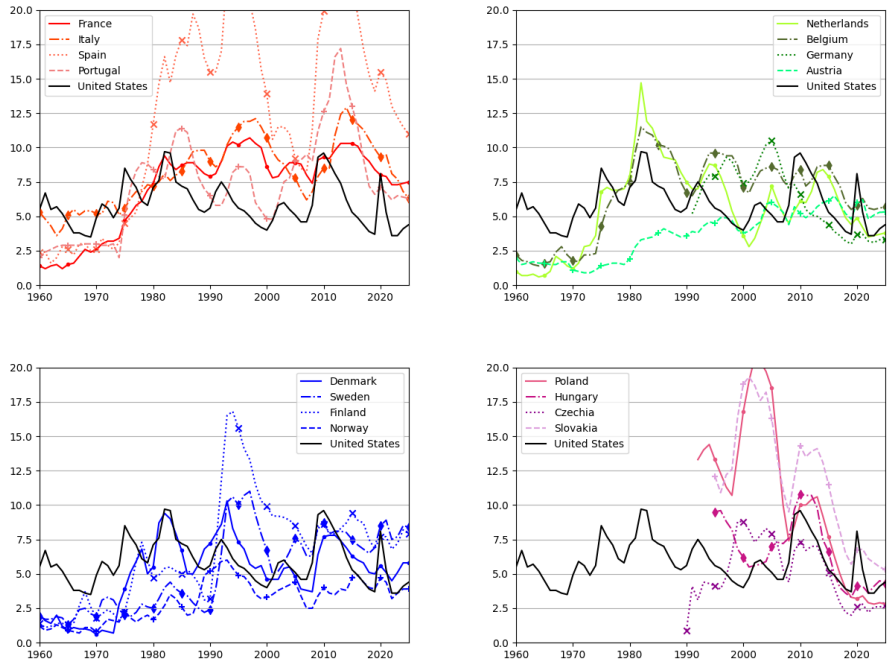


Figure A.3: Employment-Population Ratios by Country Cluster

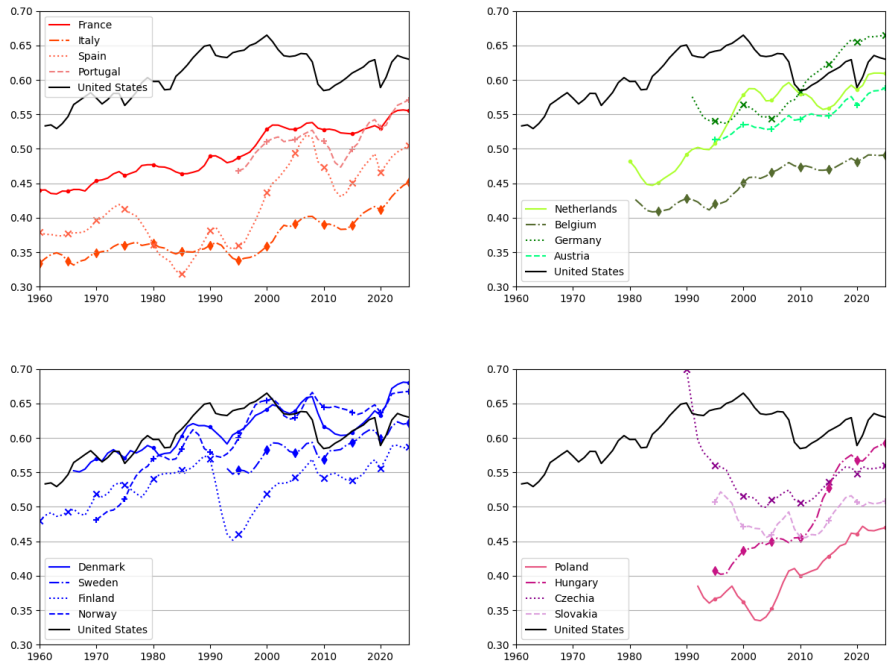


Figure A.3: Transition rates between employment and nonemployment (rather than unemployment)

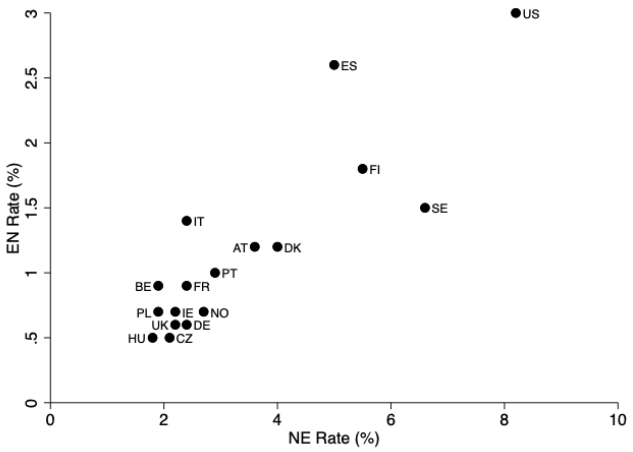
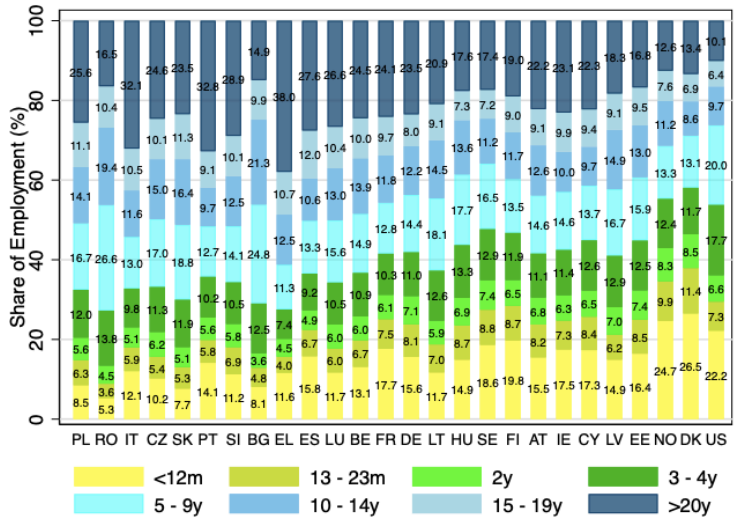
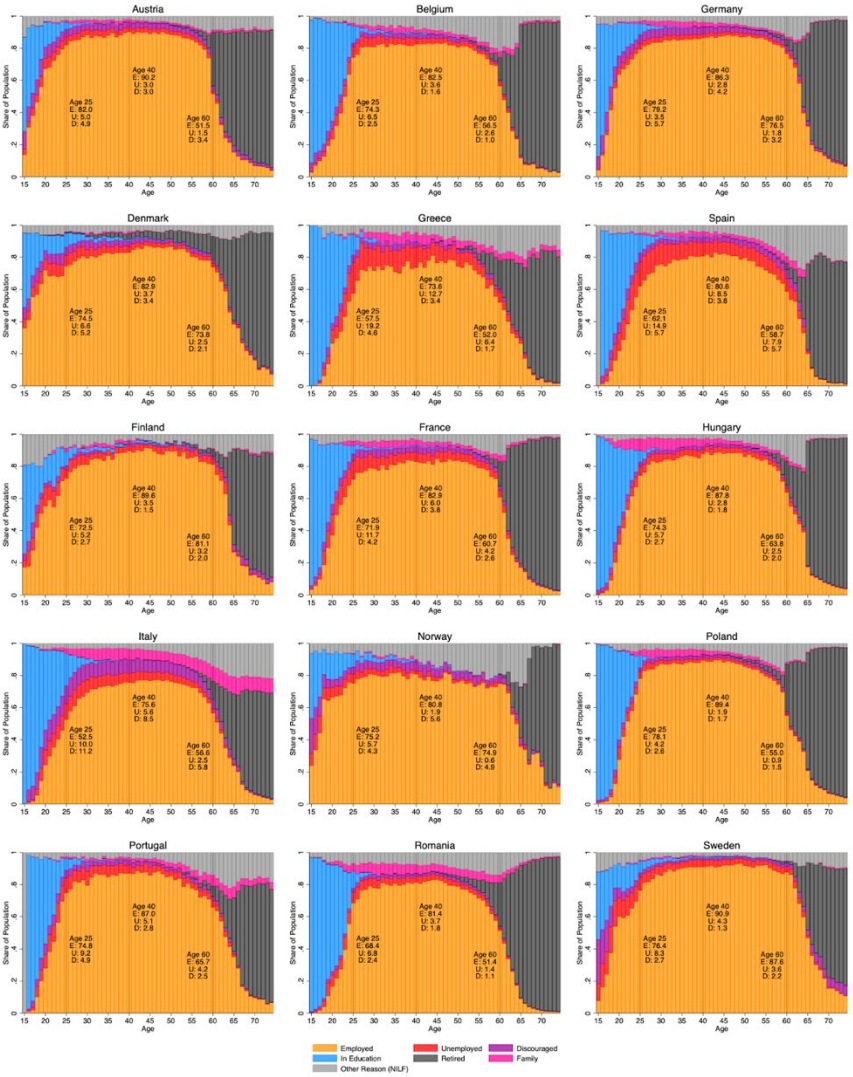


Figure A.4: Granular Tenure Distributions by Country



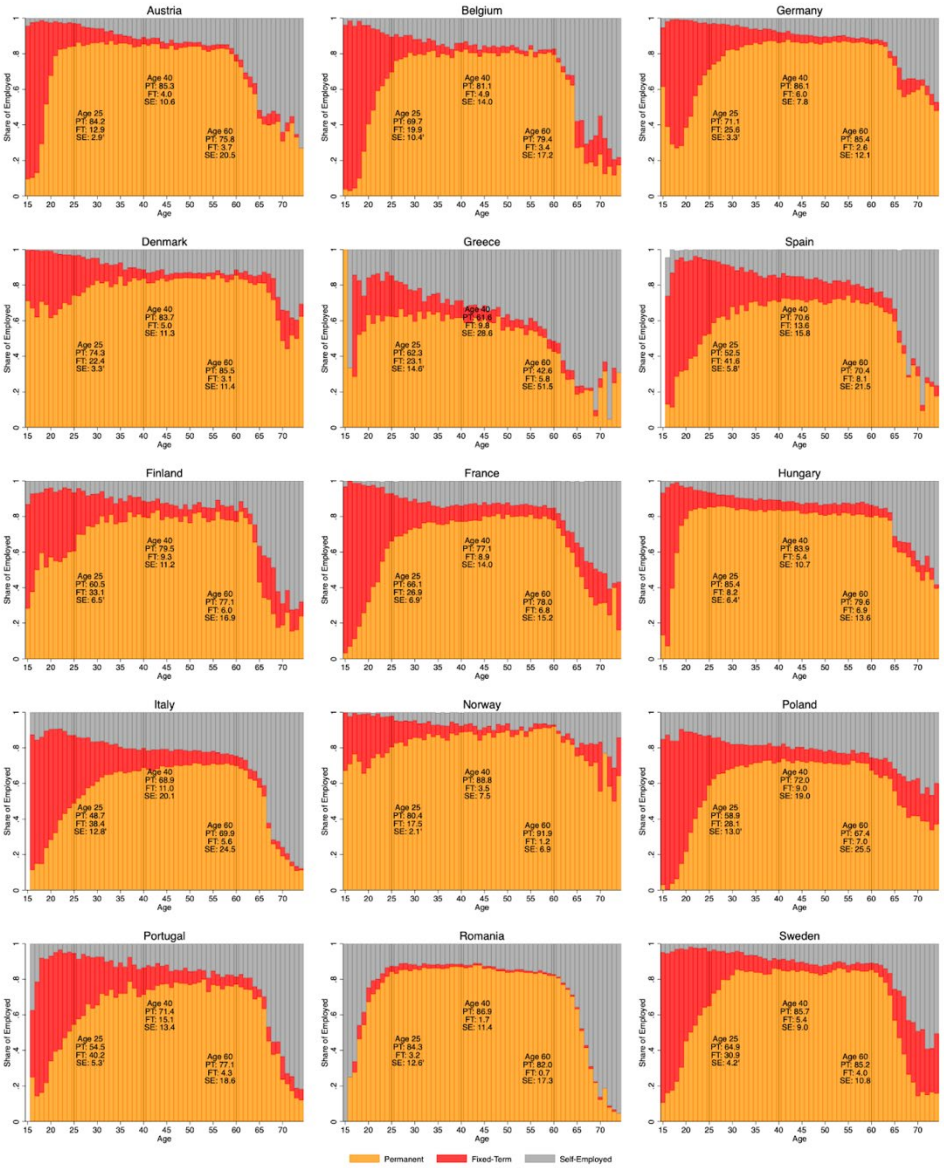
Note: The figure documents heterogeneity in the duration of employer-employee matches across European economies and the United States. The sample is restricted to workers between ages 15 to 74. I drop observations with missing information on the starting year of an employment spell. In cases where the starting years lie at least two years apart and a job has thus lasted for at least one year, but information on the starting month is missing, I impute the starting month as the average starting month among all jobs lasting longer than one year. Data for European economies comes from the EU-LFS between 2022 and 2023. Calculations use the provided survey weights. Data for the US is reported by the BLS and refers to January 2024.

Figure A.5: Labor market outcomes by age and country: additional countries



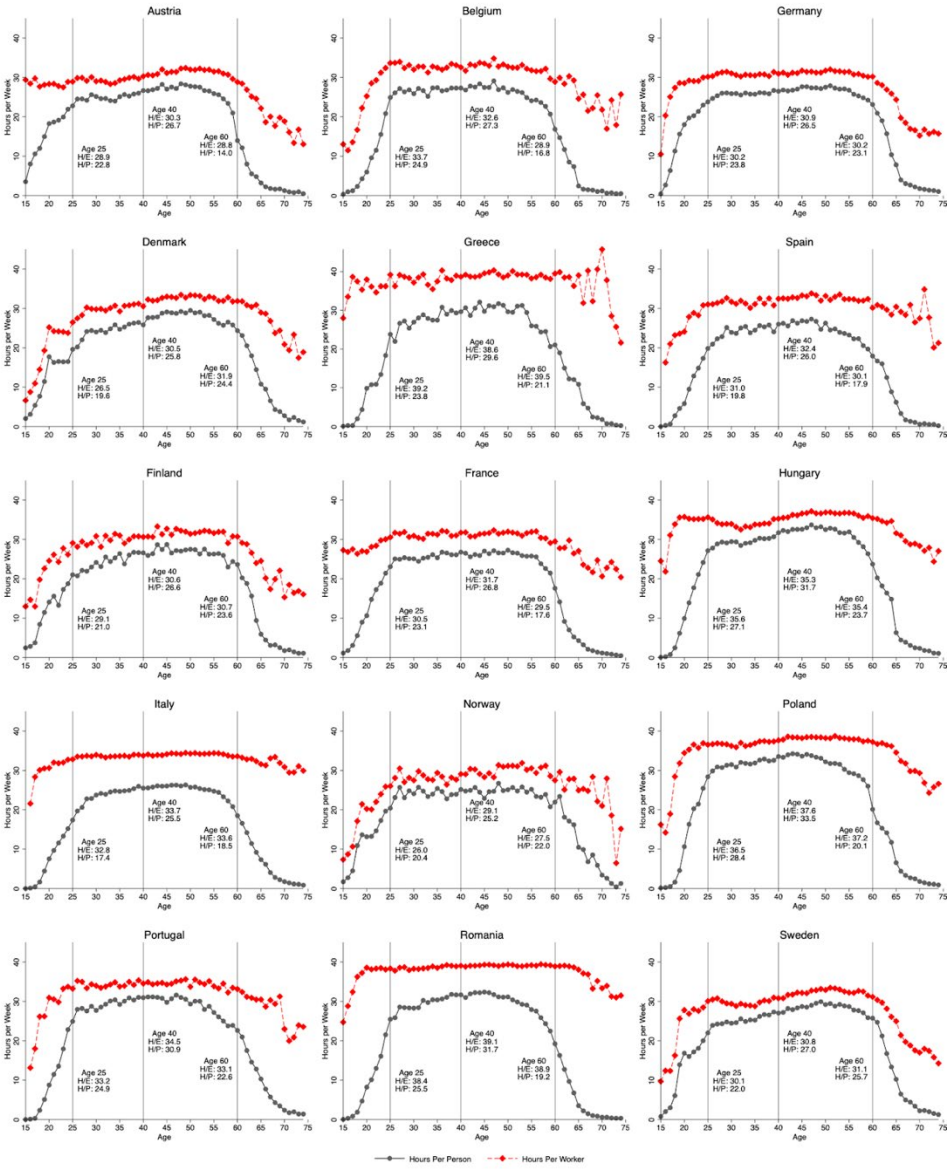
Notes: The figure presents a partition of the working age population across the European economies between 2022 and 2023. The upper row presents the partitions for Northern and Central Italy on the left, and Southern Italy on the right. Data comes from the LFS. The definitions for employed and unemployment follow ILO conventions. I classify as Discouraged workers who report that they are non-employed and not searching, but would be willing to work, but do not state caregiving or family matters, retirement or education as reasons for their non-employment. Individuals who are not employed and unwilling to work, but have obtained either education or training in the last four weeks are classified as In Education. Workers who state that they are not working due to caregiving or family matters assigned to a separate group denoted by Family. Workers not falling into one of those categories are counted under Other Reason. Calculations use the provided survey weights. Numbers reported in the graphs represent the shares in percent of employment (E), unemployment (U), and discouraged workers (D) in the population at a given age.

Figure A.6: Fixed term contract incidence by age and country: additional countries



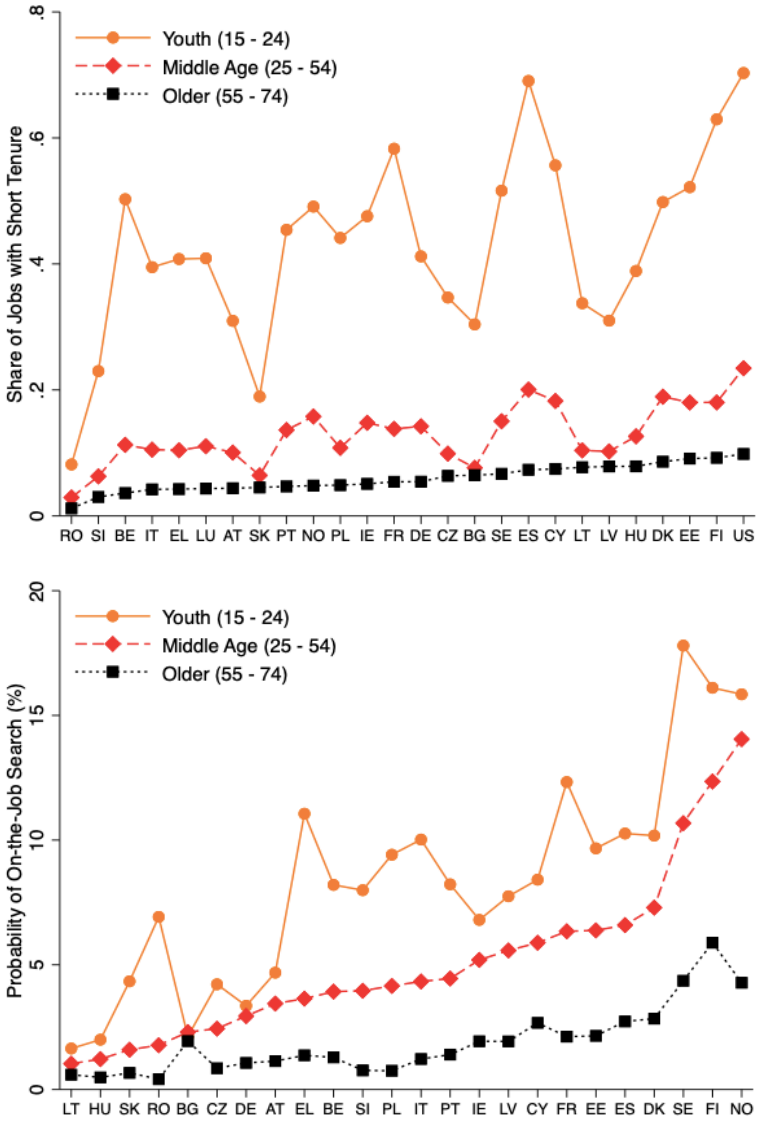
Notes: The figure shows the composition of employment across the life-cycle in different European economies between 2022 and 2023. Data comes from the EU-LFS. Employment status is self-reported and can take on three different types: permanent employment (PT), fixed-term employment (FT) and self-employment (SE). I drop observations with missing information on employment status. Calculations use the provided survey weights.

Figure A.7: Hours worked per employee, and per capita, by age and country: additional countries



Notes: The figure shows average actual hours worked by age for different European economies between 2022 and 2023. The hours measure includes hours worked in both the primary and secondary job. Gray lines depict hours per population. Red lines depict hours per worker. Employment is defined following ILOSTAT definitions. Calculations use the provided survey weights.

A.8. Labor market dynamism by age group and country: short-tenure jobs (at most a year, Europe and US) and active on the job search (Europe only) – All contract types (rather than OECs only in main text)



Notes: The figure documents heterogeneity in the duration of employer-employee matches across European economies and the United States by worker age. The top panel reports the share of current jobs that have lasted for less than a year, by worker age at the time of interview. Data for European economies comes from the EU-LFS. Data for the US is reported by the BLS and refers to January 2024. The bottom panel) reports the share (in percent) of workers that report actively searching for another employer in the past four weeks, by worker age at the time of interview. Data is missing for the United States. I omit Luxembourg from the analysis due to the small size of its EU-LFS sample. Calculations use the provided survey weights.